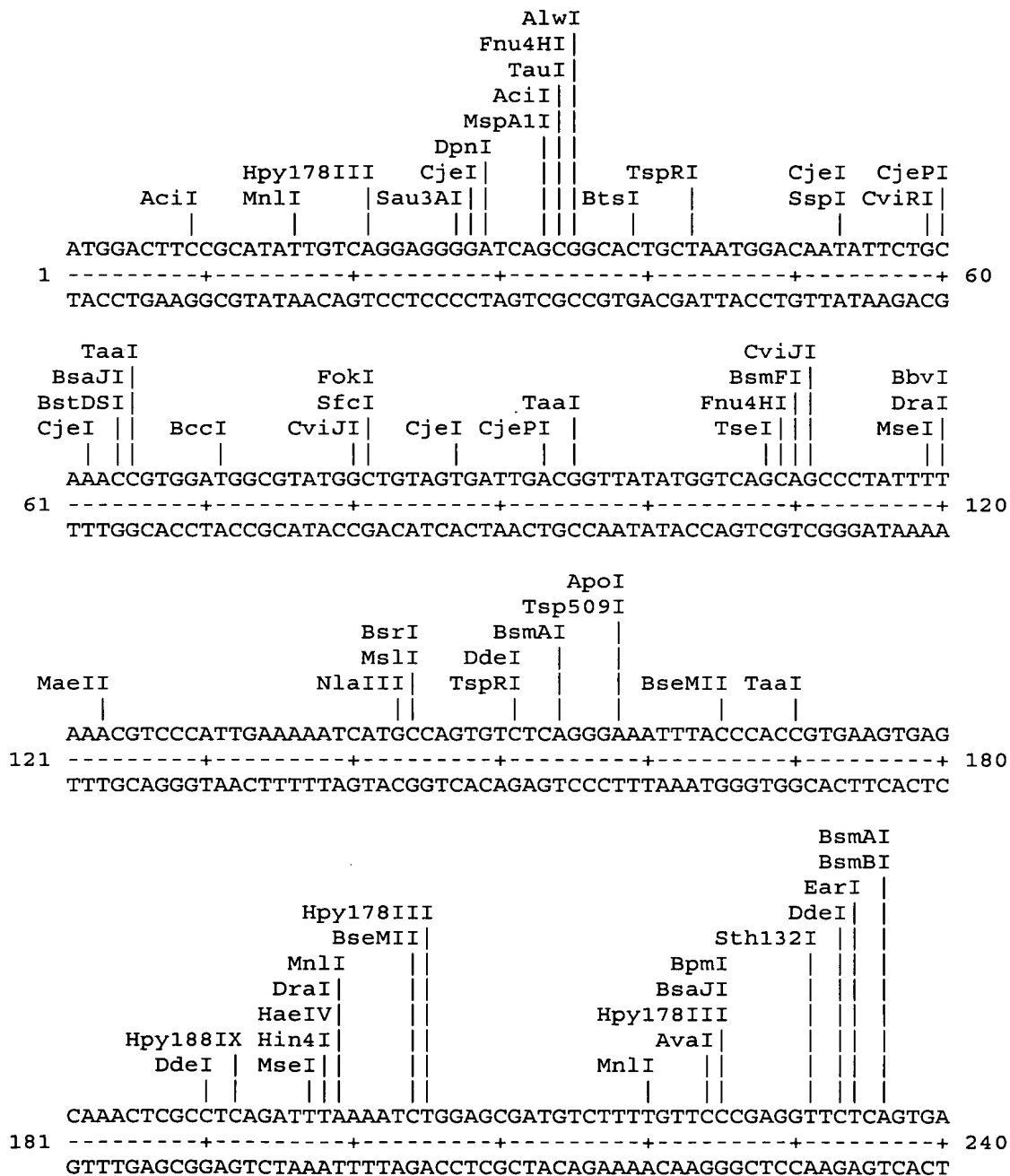


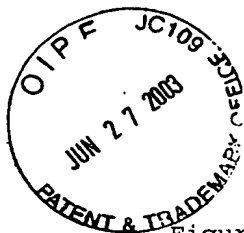
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Thereof

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Figure 1A

Restriction enzyme analysis of CPN100686 (RY 54 - SEQ ID NO. 1)

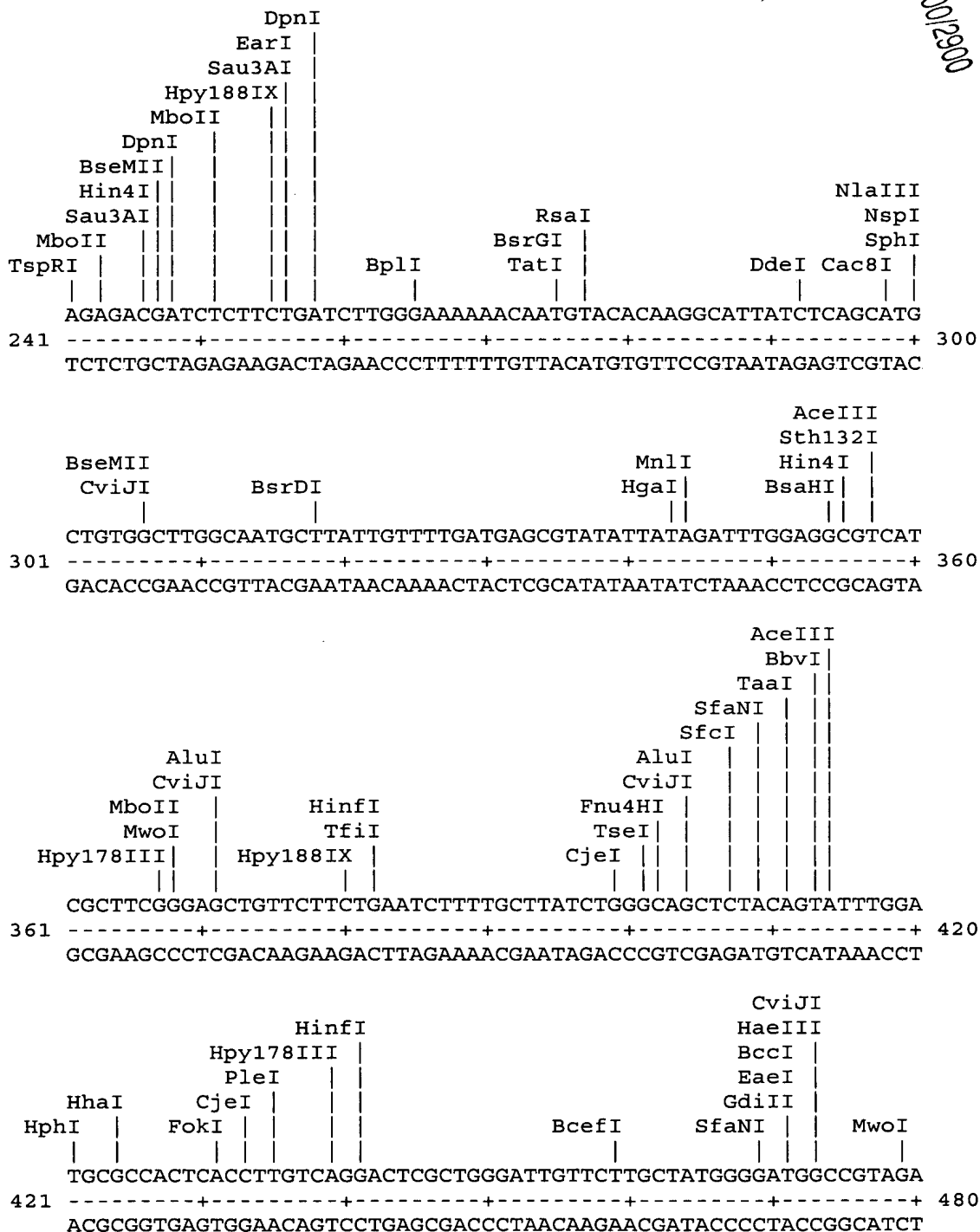


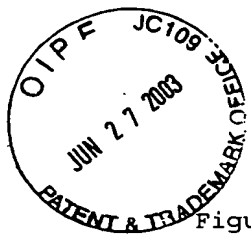


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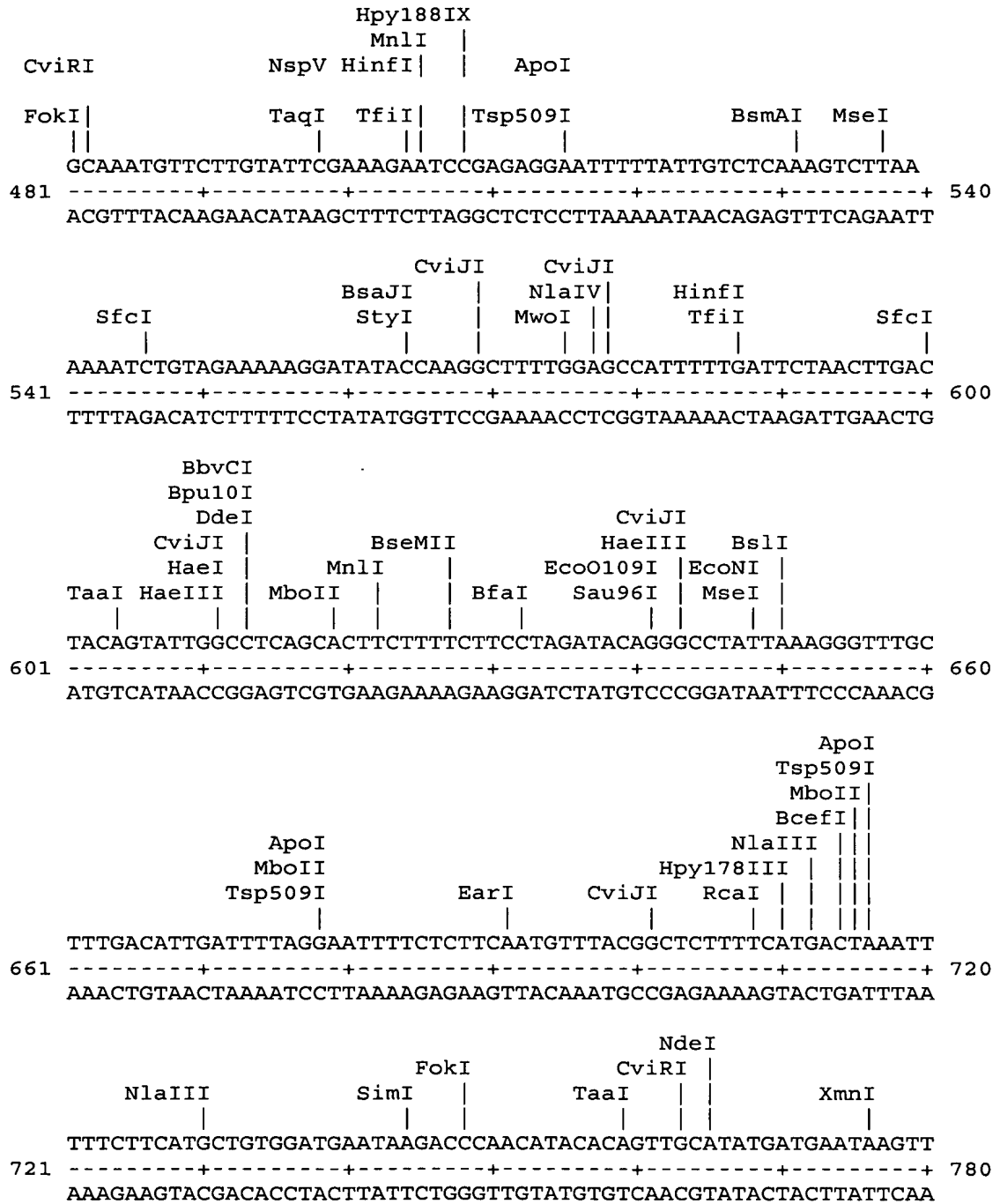
Figure 1B

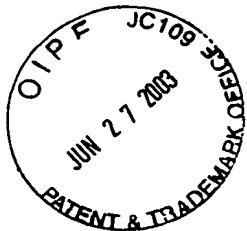




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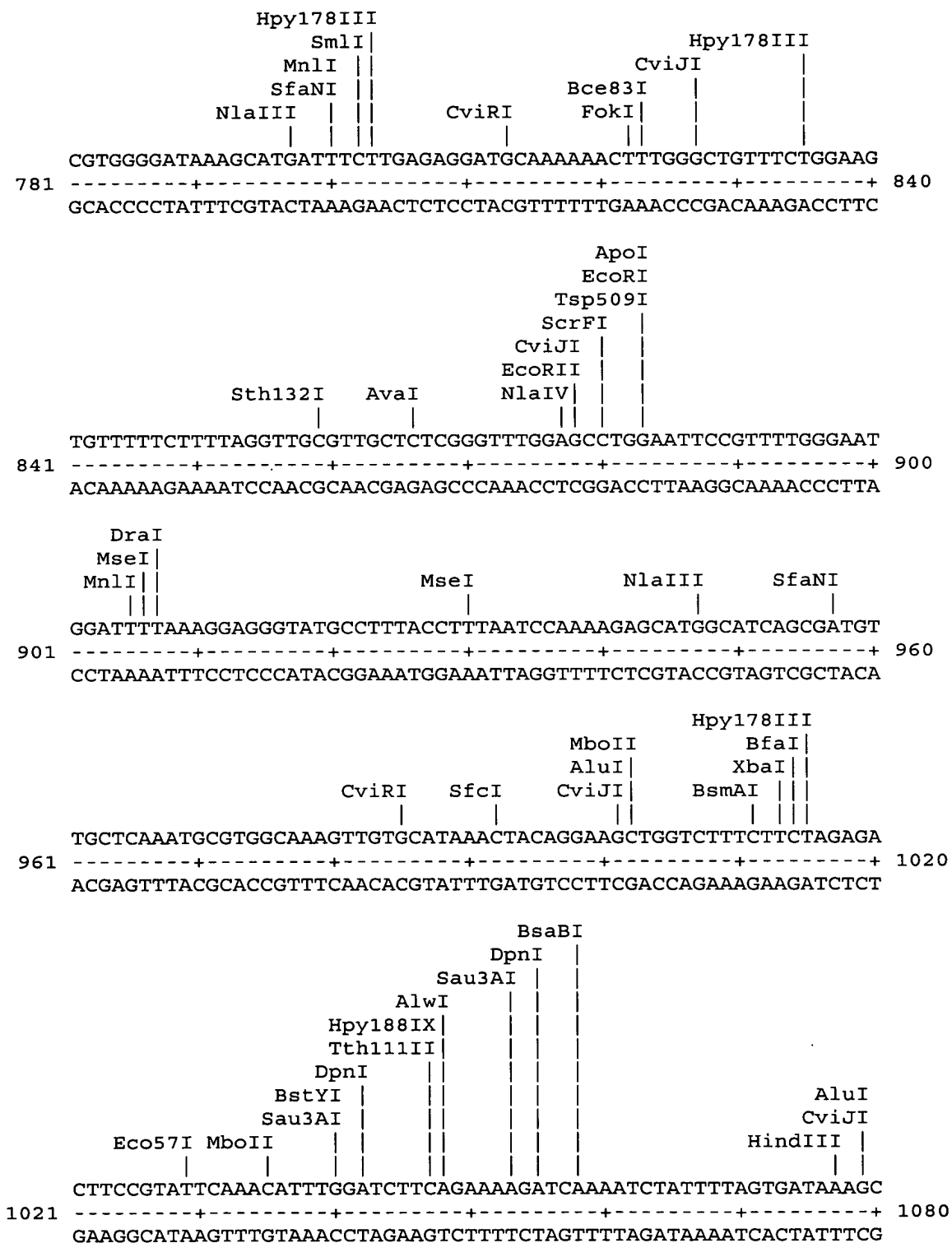
Figure 1C

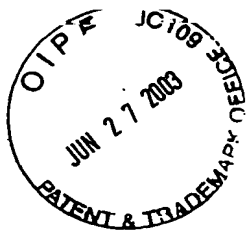




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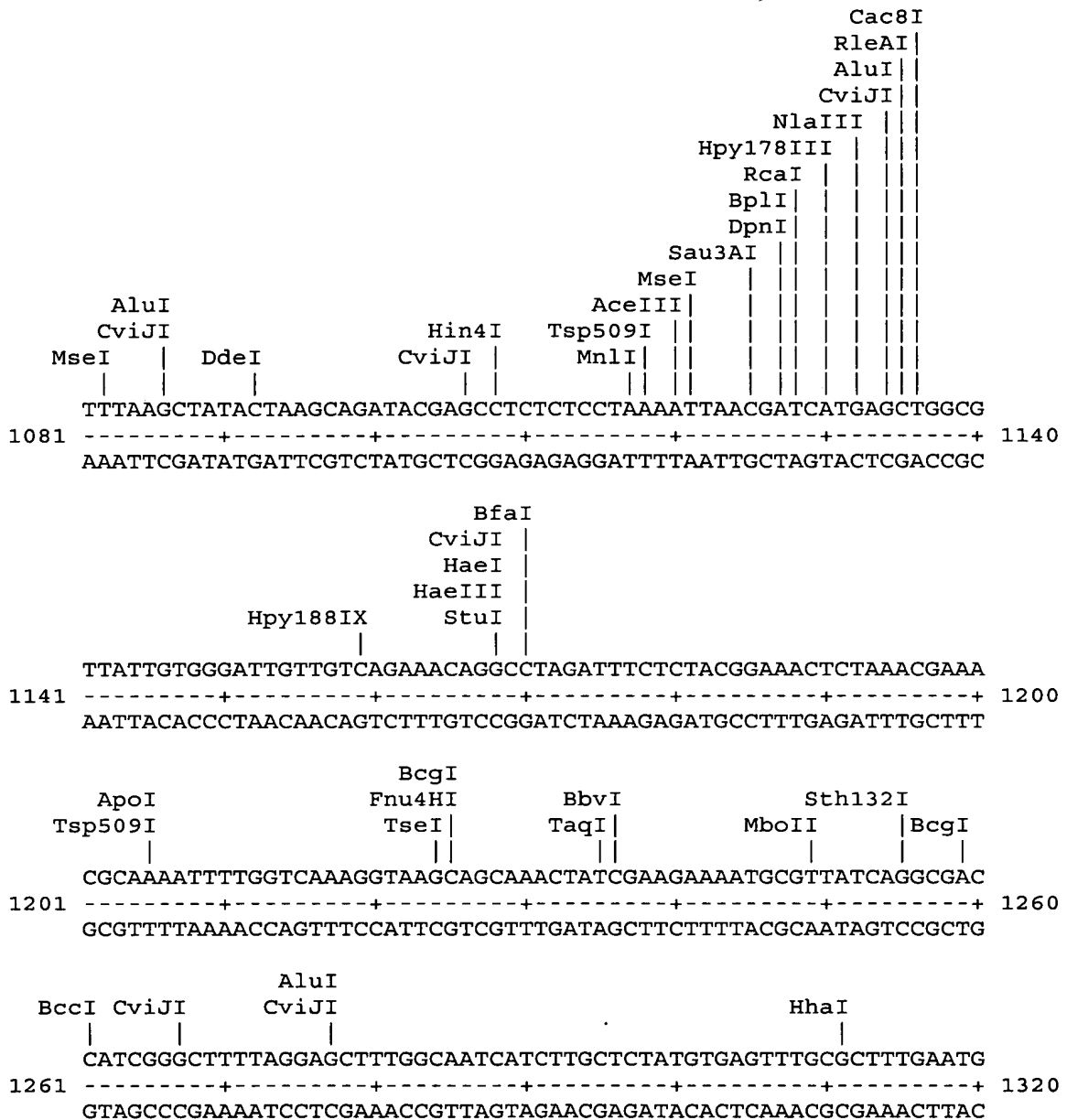
Figure 1D





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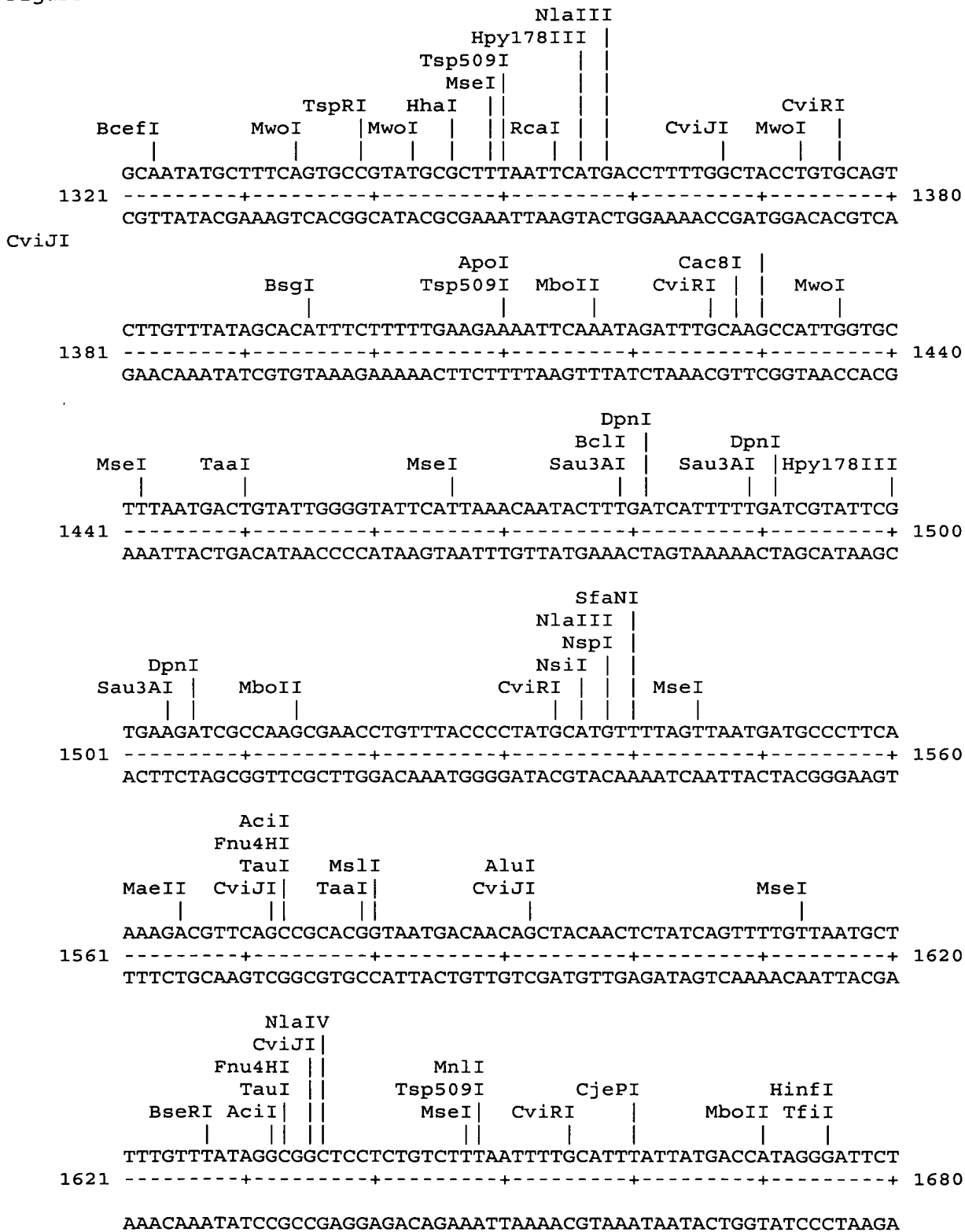
Figure 1E

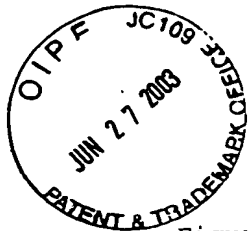




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Figure 1F

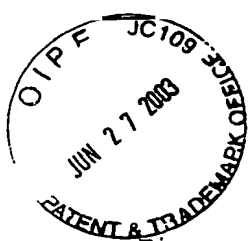




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Figure 1G

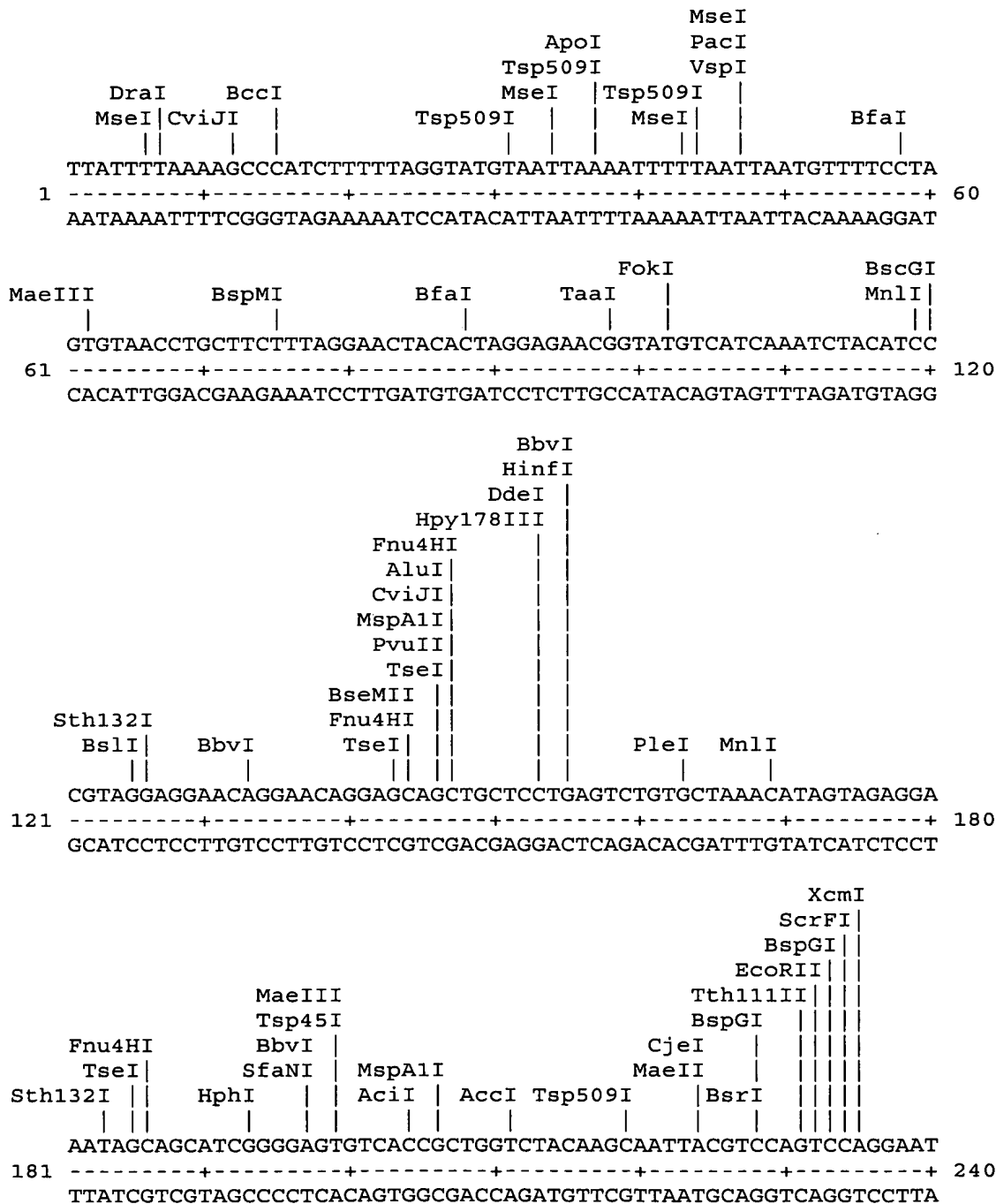




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Figure 2A

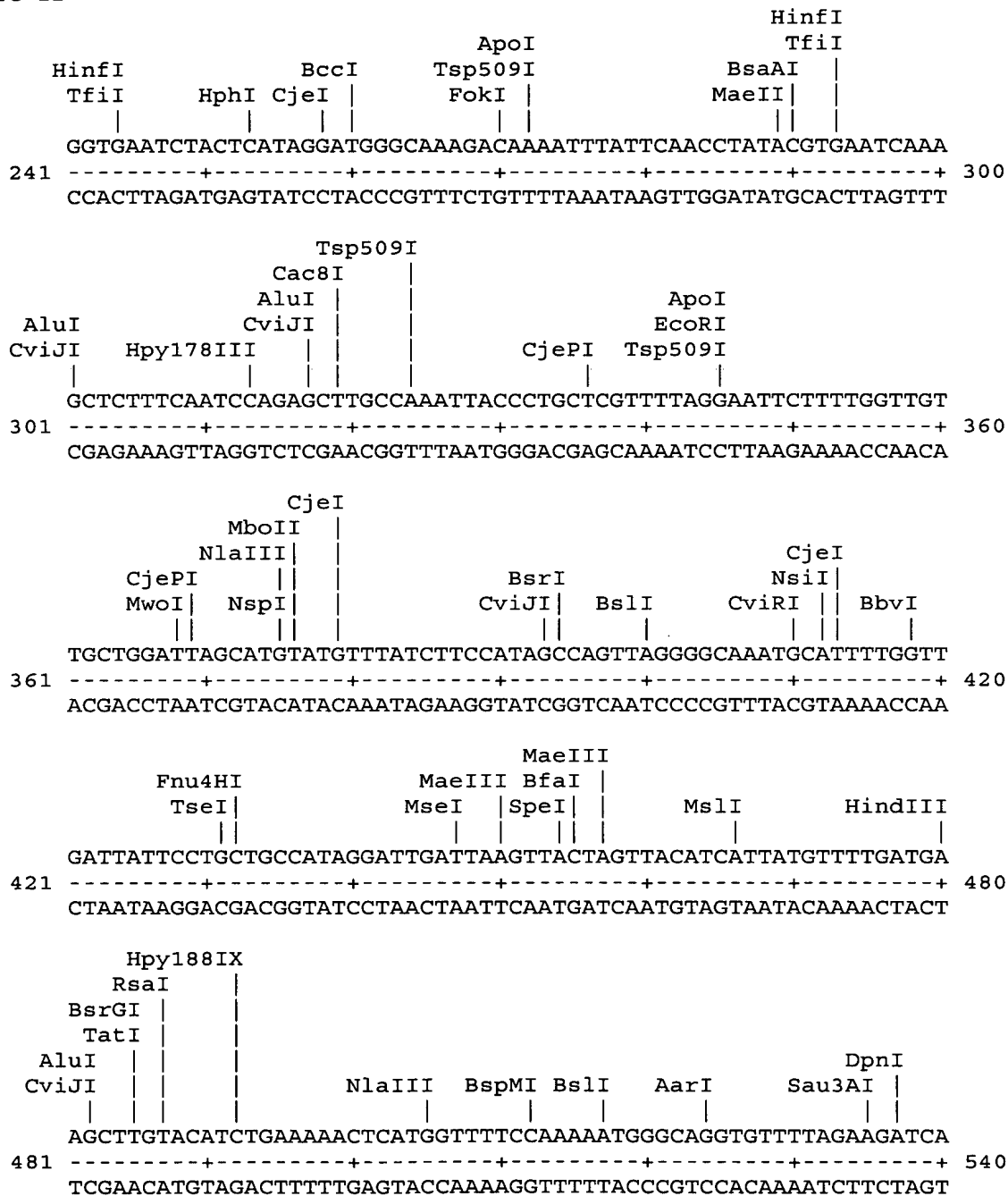
Restriction enzyme analysis of CPN100696 (RY 55 - SEQ ID NO. 2)





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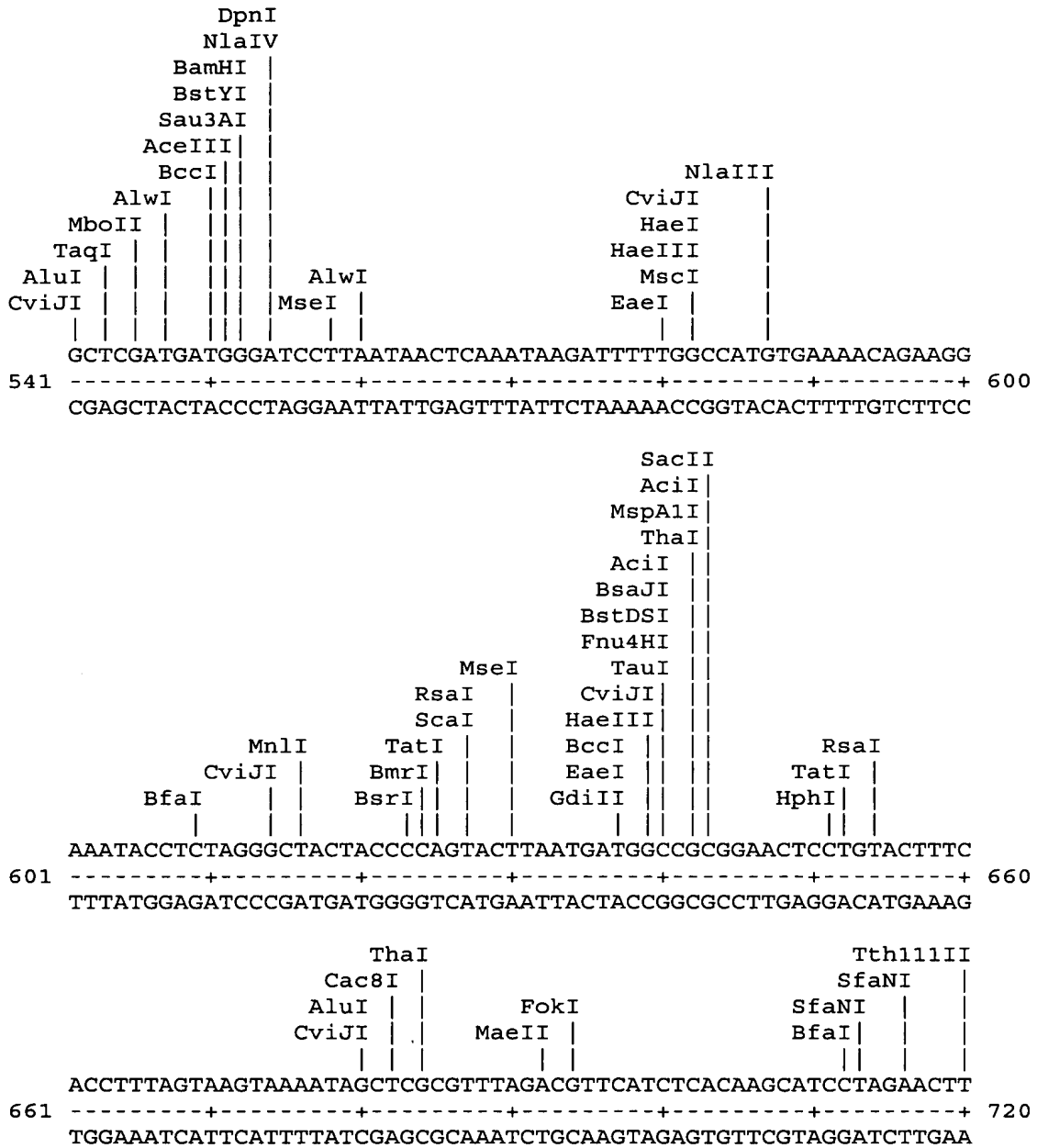
Figure 2B

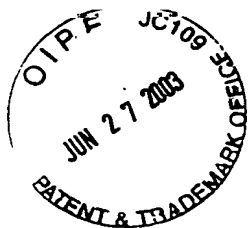




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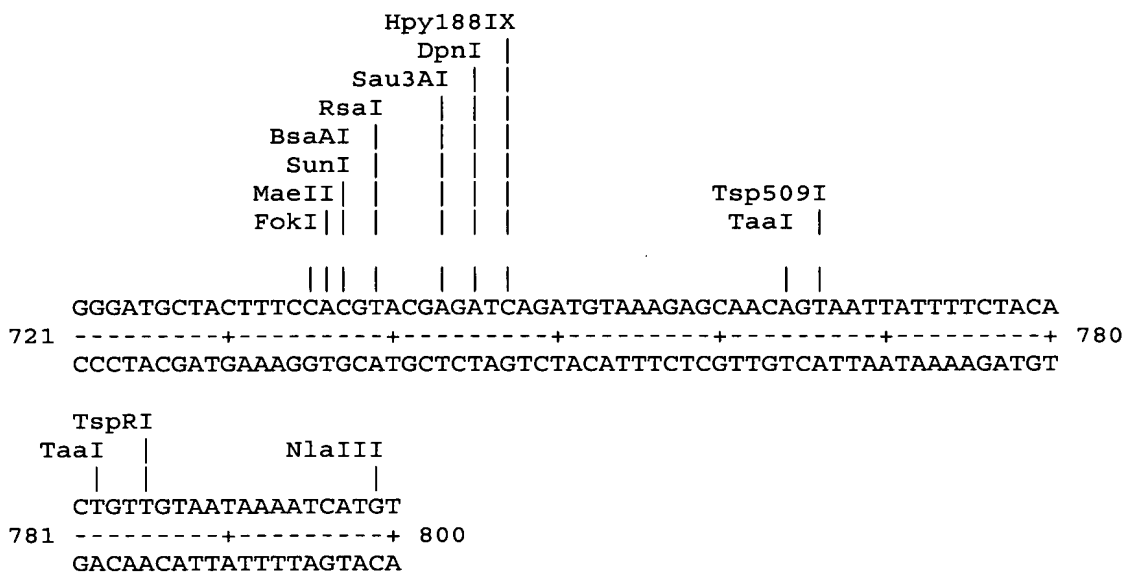
Figure 2C

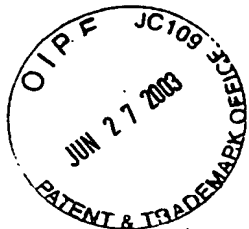




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Figure 2D

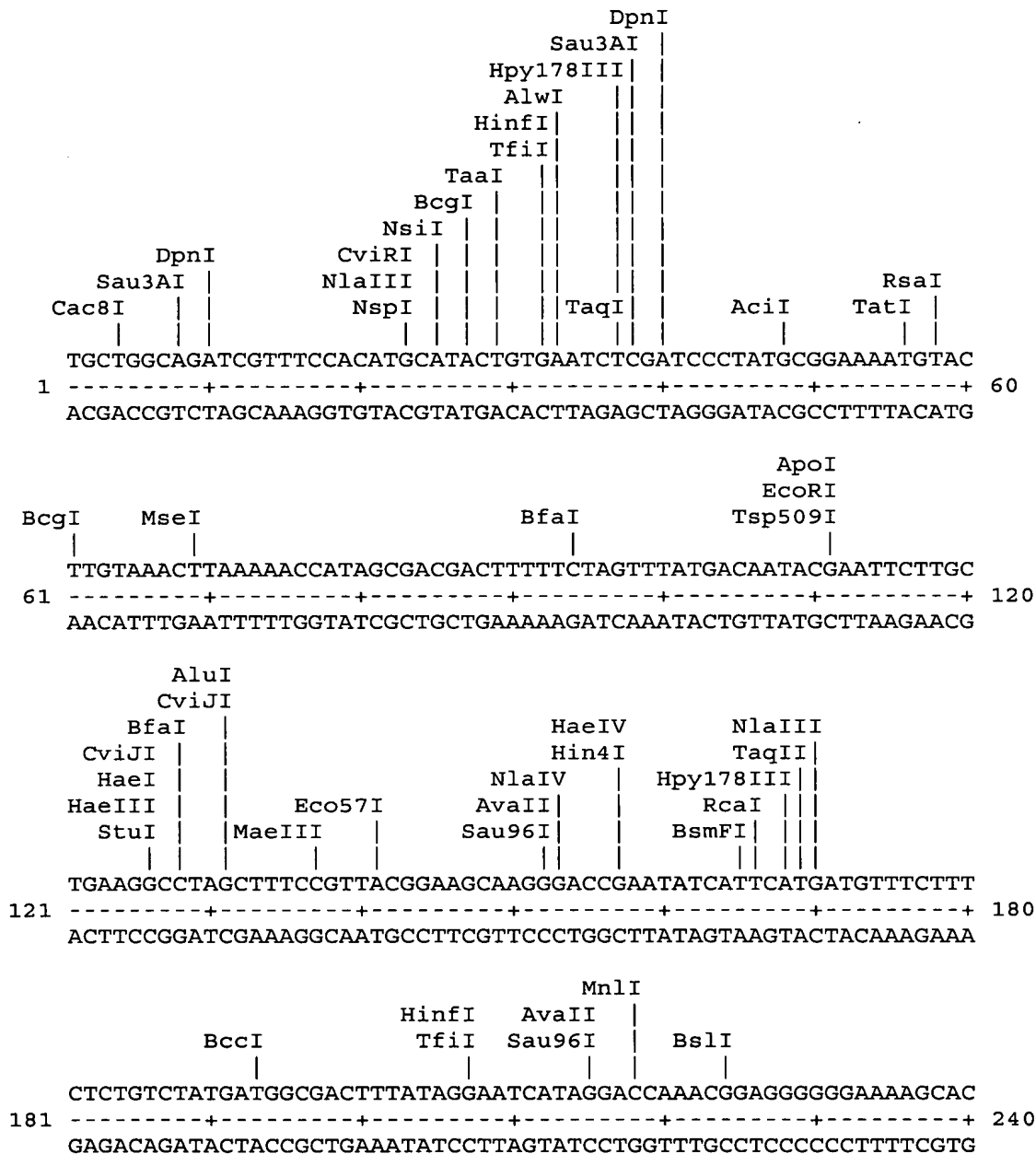




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Figure 3A

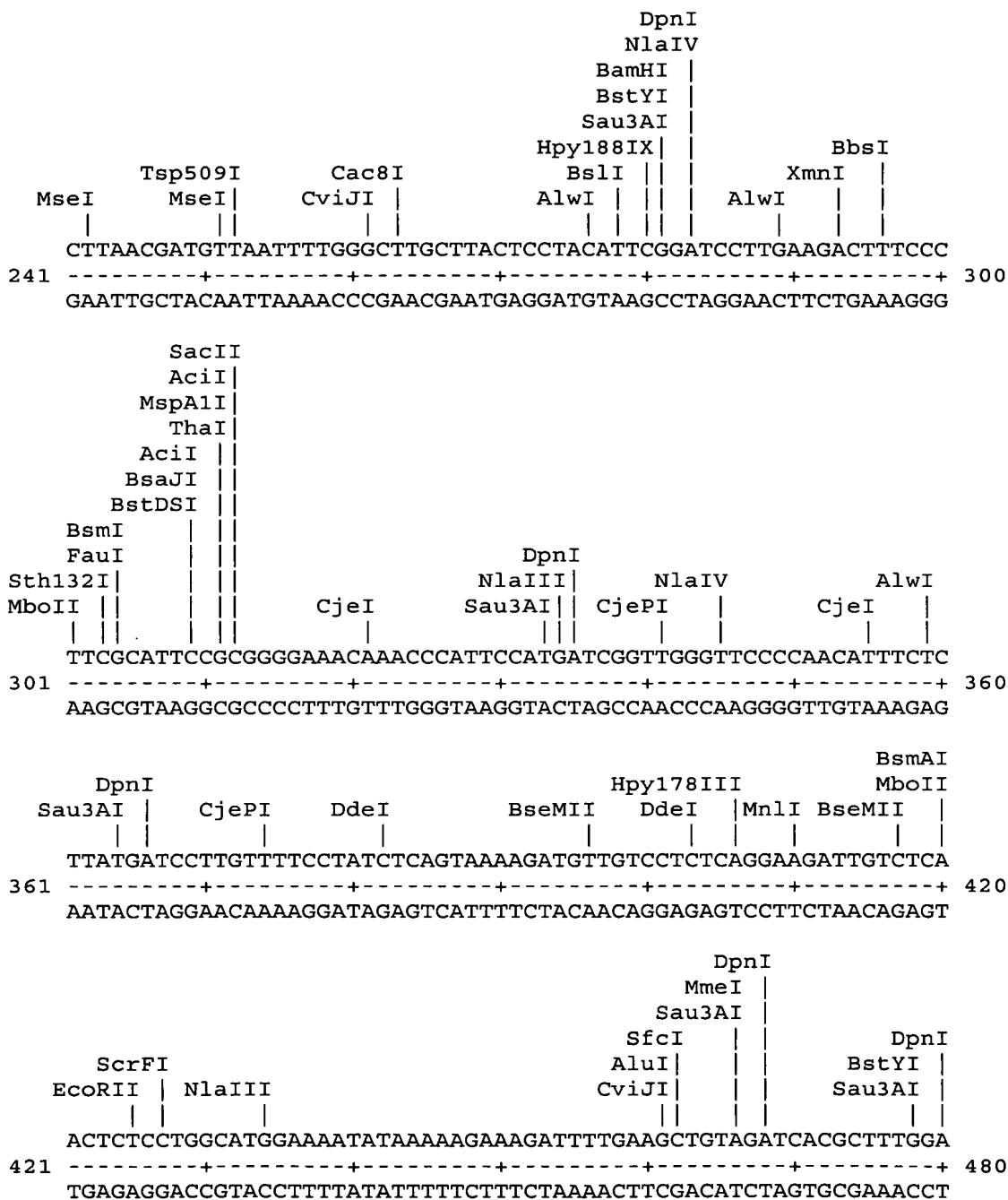
Restriction enzyme analysis of CPN100709 (RY 57 - SEQ ID NO. 3)

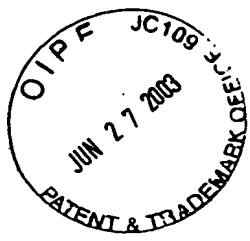




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Thereof
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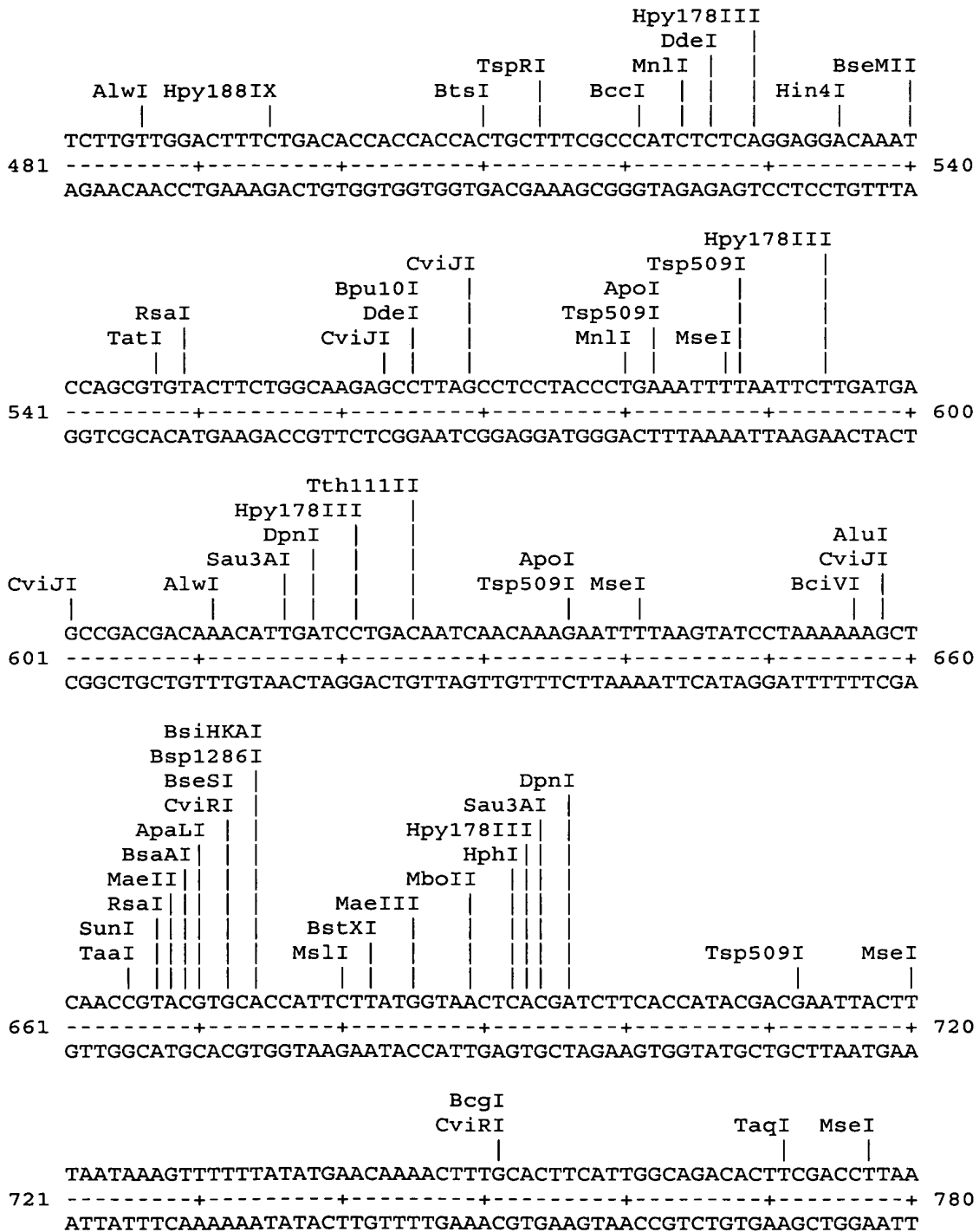
Figure 3B

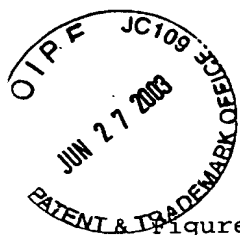




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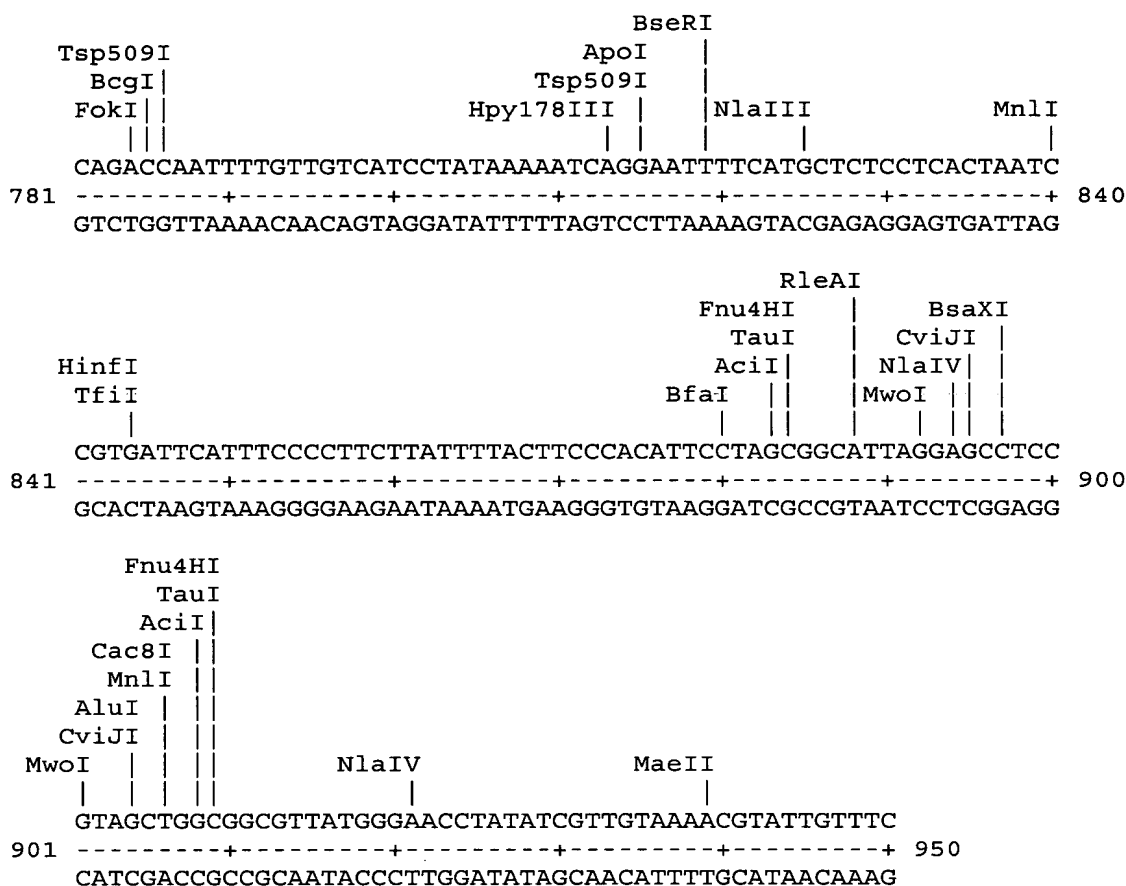
Figure 3C

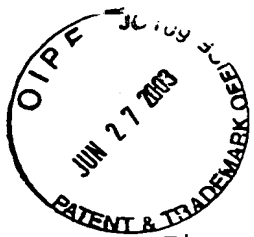




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Thereof
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Figure 3D





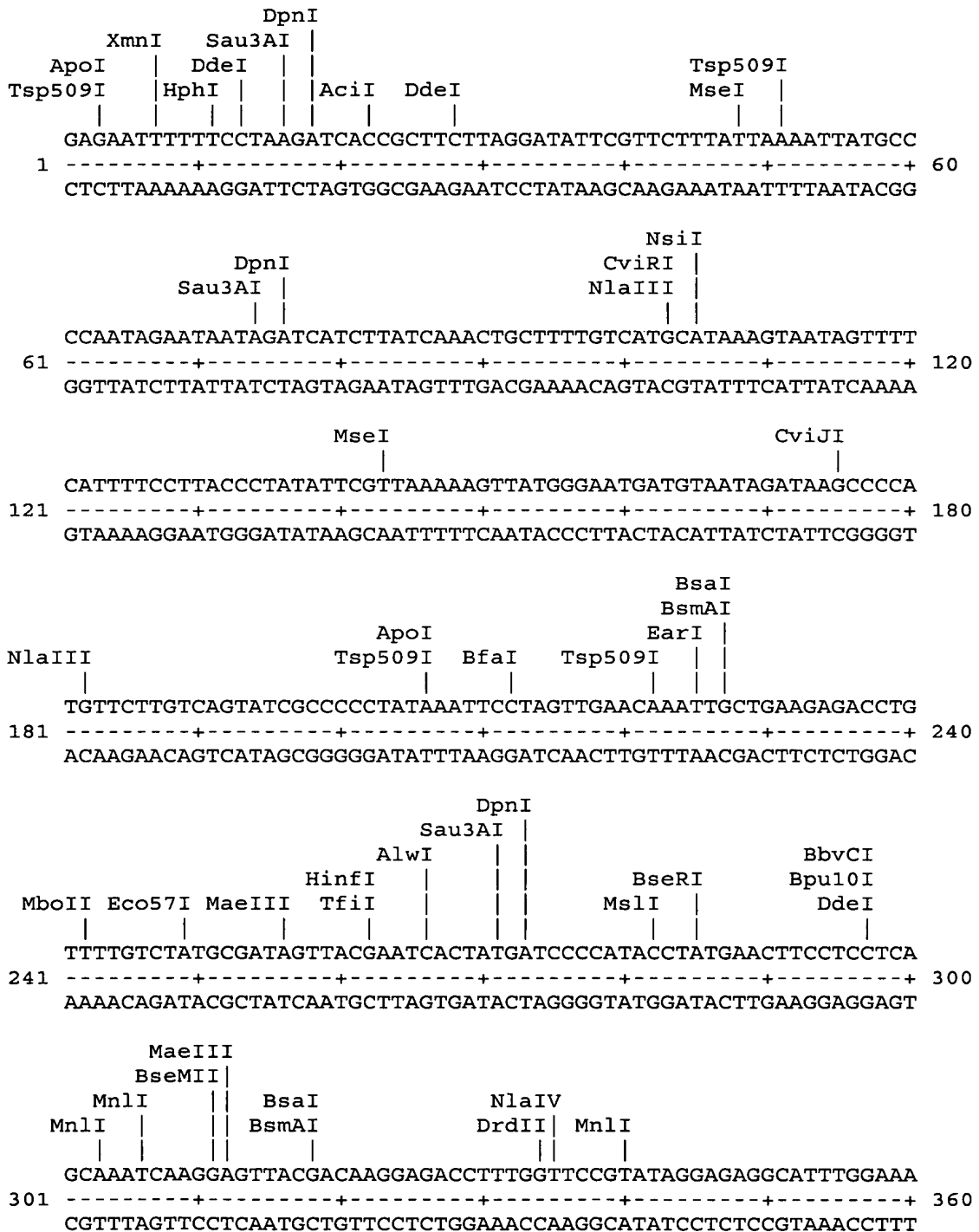
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Corresponding DNA Fragments and Uses
Thereof

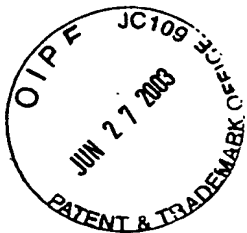
Inventor(s): Andrew D. MURDIN et al.

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Figure 4A

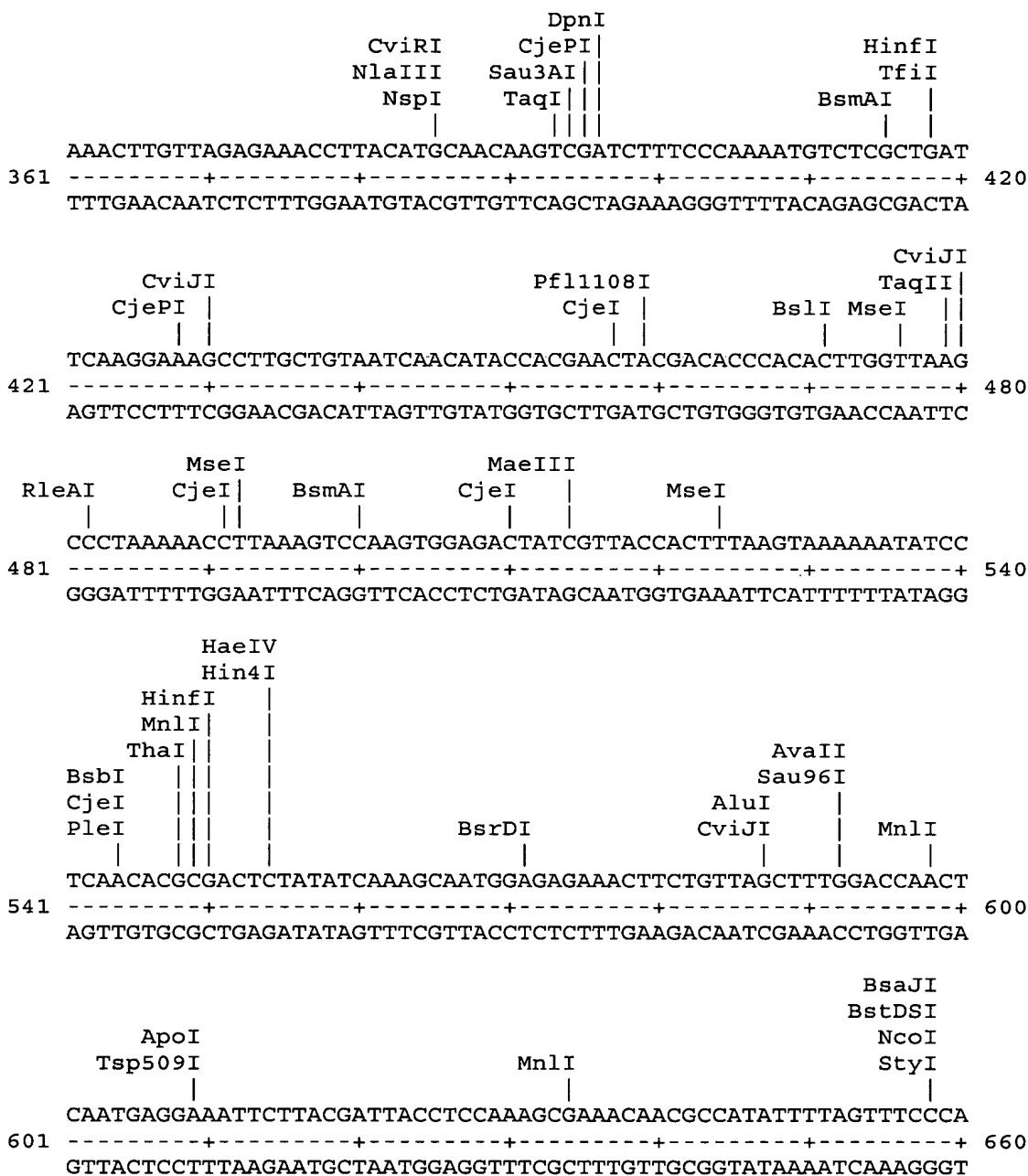
Restriction enzyme analysis of CPN100710 (RY 58 - SEQ ID NO. 4)

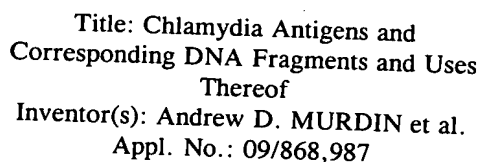


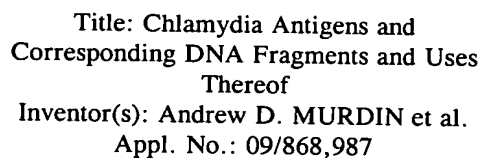


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Thereof
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Figure 4B



[illegible]

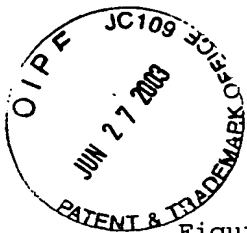


HaeIV
 NlaIII
 AluI
 CviJI
 Eco57I
 BfaI
 MaeIII
 NlaIV
 AvaII
 Sau96I
 Hpy178III
 RcaI
 BsmFI
 TaqII
 CTAGCTTTCCGTTACGGAAGCAAGGGACCGAATATCATGATGTTTCTTTCTCTGTC
 961 -----+-----+-----+-----+-----+-----+-----+ 1020
 GATCGAAAGGCAATGCCTTCGTTCCCTGGCTTATAGTAAGTACTACAAAGAAAGAGACAG

 MnlI
 BccI
 HinfI
 TfiI
 Sau96I
 BslI
 MseI
 TATGATGGCGACTTTATAGGAATCATAGGACCAAACGGAGGGGGGAAAAGCACCTTAACG
 1021 -----+-----+-----+-----+-----+-----+-----+ 1080
 ATACTACCGCTGAAATATCCTTAGTATCCTGGTTTGCTCCCCCTTTTCGTGGAATTGC

 DpnI
 NlaIV
 BamHI
 BstYI
 Sau3AI
 Hpy188IX
 BslI
 AlwI
 Tsp509I
 MseI
 Cac8I
 CviJI
 BbsI
 XmnI
 AlwI
 Sth132I
 FauI
 MboII
 ATGTTAATTTTGGGCTTGCTTACTCCTACATTCGGATCCTTGAAGACTTTCCTTCGCAT
 1081 -----+-----+-----+-----+-----+-----+-----+ 1140
 TACAATTAAAACCCGAACGAATGAGGATGTAAGCCTAGGAACTTCTGAAAGGGAAGCGTA

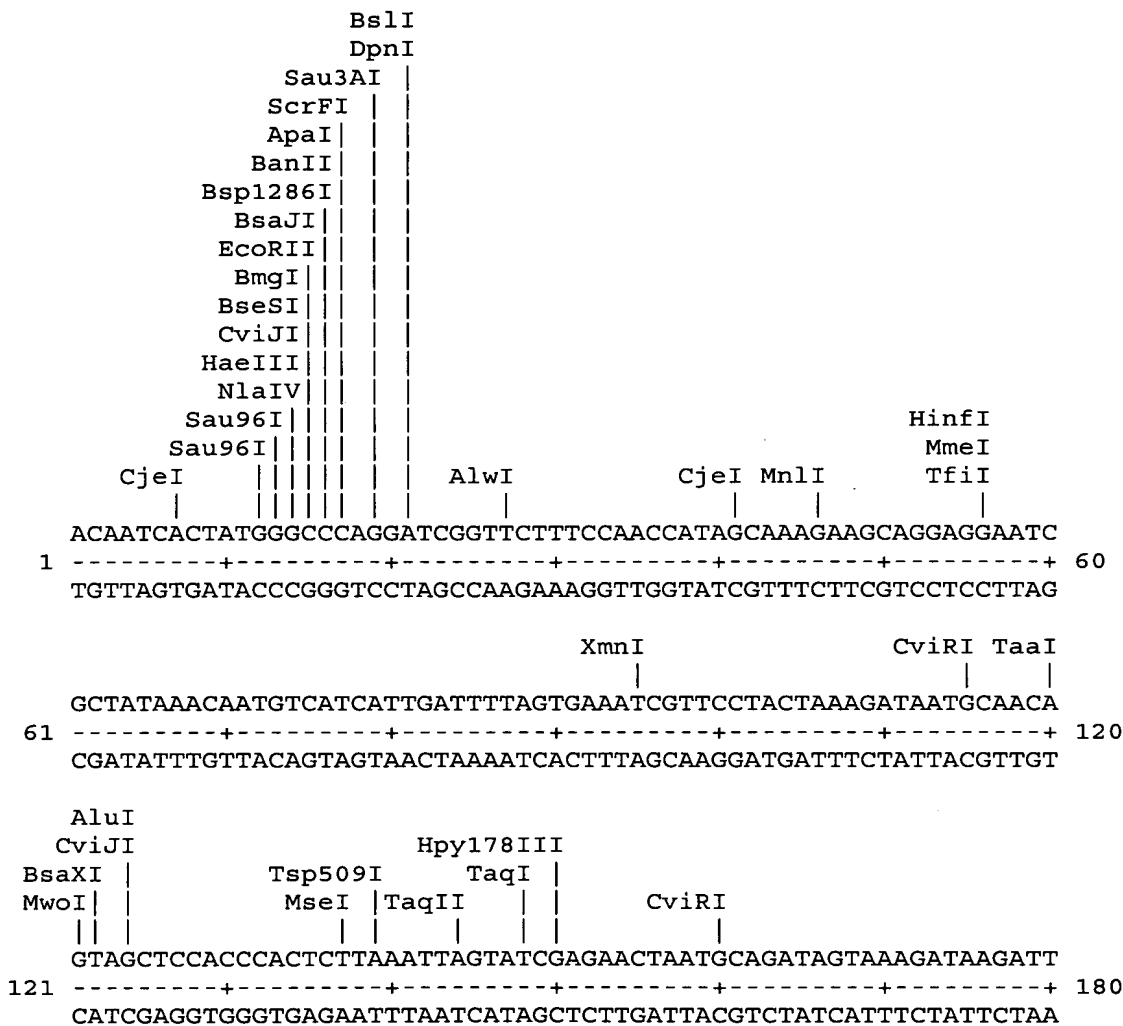
 SacII
 AciI
 MspAII
 ThaI
 AciI
 BsaJI
 BstDSI
 TCCGCGGGGAAACAAACCCATT
 1141 -----+-----+-----+-----+-----+-----+-----+ 1162
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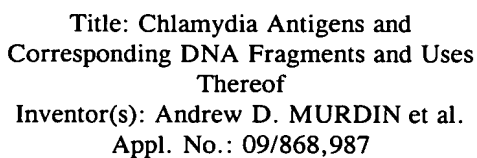


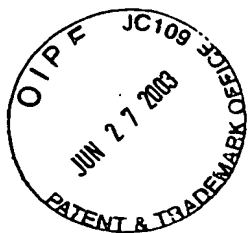
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Figure 5A

Restriction enzyme analysis of CPN100711 (RY 59 - SEQ ID NO. 5)

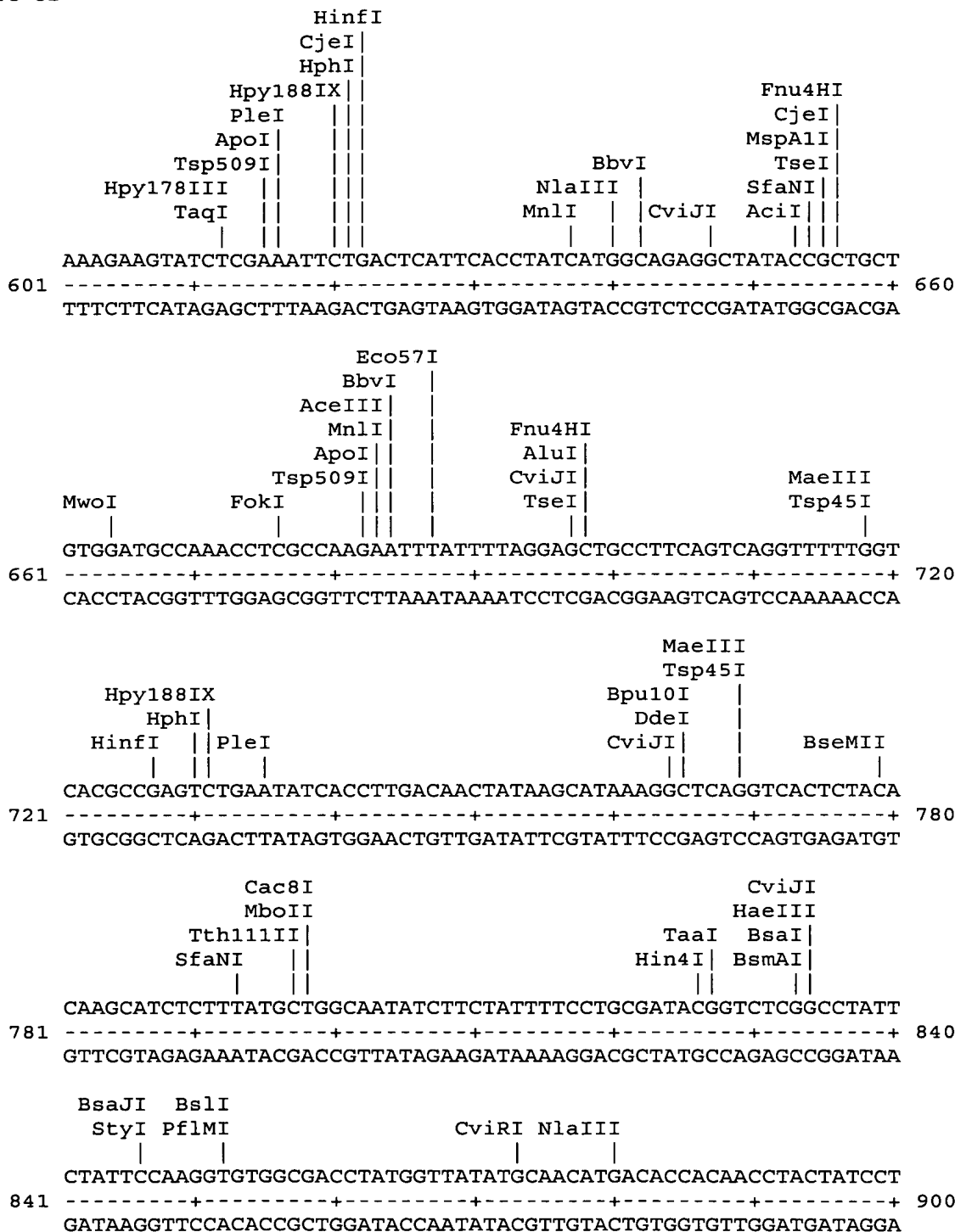


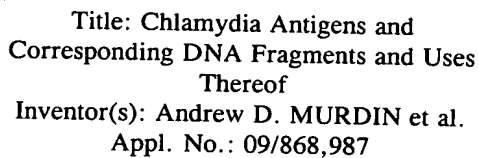
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Figure 5D



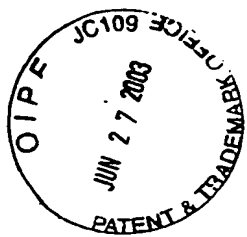


901
TCTATTGAAGAAAAAATATGGCAAAC TGGGATAGCATTGCTTG GTTATTTGATCTGCGT
-----+-----+-----+-----+-----+
AGATAACTTC TTTTTTTATACCGTTGACCCTATCGTAACGAACCAATAAACTAGACGCA

961
TTCAGTGTGGATCTTAAAGAACCTCAACCTCACTCTACAGCAAGGCTTACCTTCTATACA
-----+-----+-----+-----+-----+
AAGTCACACCTAGAATTTCTTGGAGTTGGAGTGAGATGTCGTTCCGAATGGAAGATATGT

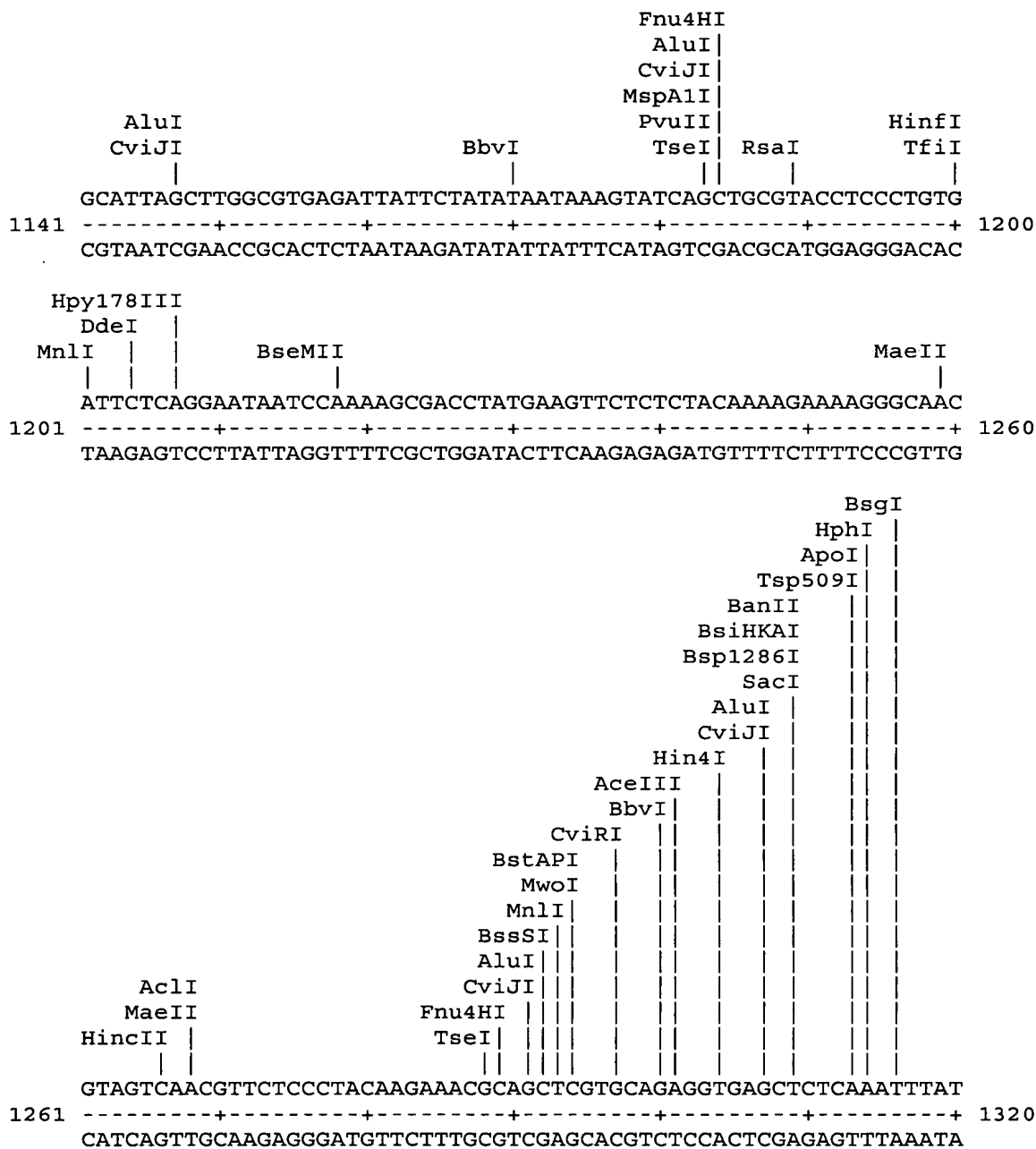
1021
GAAGCTGAGTATACCAGAATTCGCCAGGAGAAATTCACAGAGCTAGACTATGATCCTAGA
-----+-----+-----+-----+-----+
CTTCGACTCATATGGTCTTAAAGCGTCCCTCTTTAAGTGTCTCGATCTGATACTAGGATCT

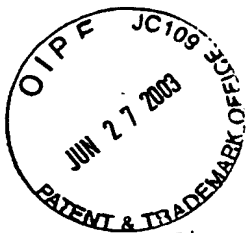
1081
TCTTTCTCTGCATGCTCTTATGGAAACTTAGCAATTCCTACTGGATTCTCTGTAGACGGA
-----+-----+-----+-----+-----+
AGAAAGAGACGTACGAGAATACCTTTGAATCGTTAAGGATGACCTAAGAGACATCTGCCT



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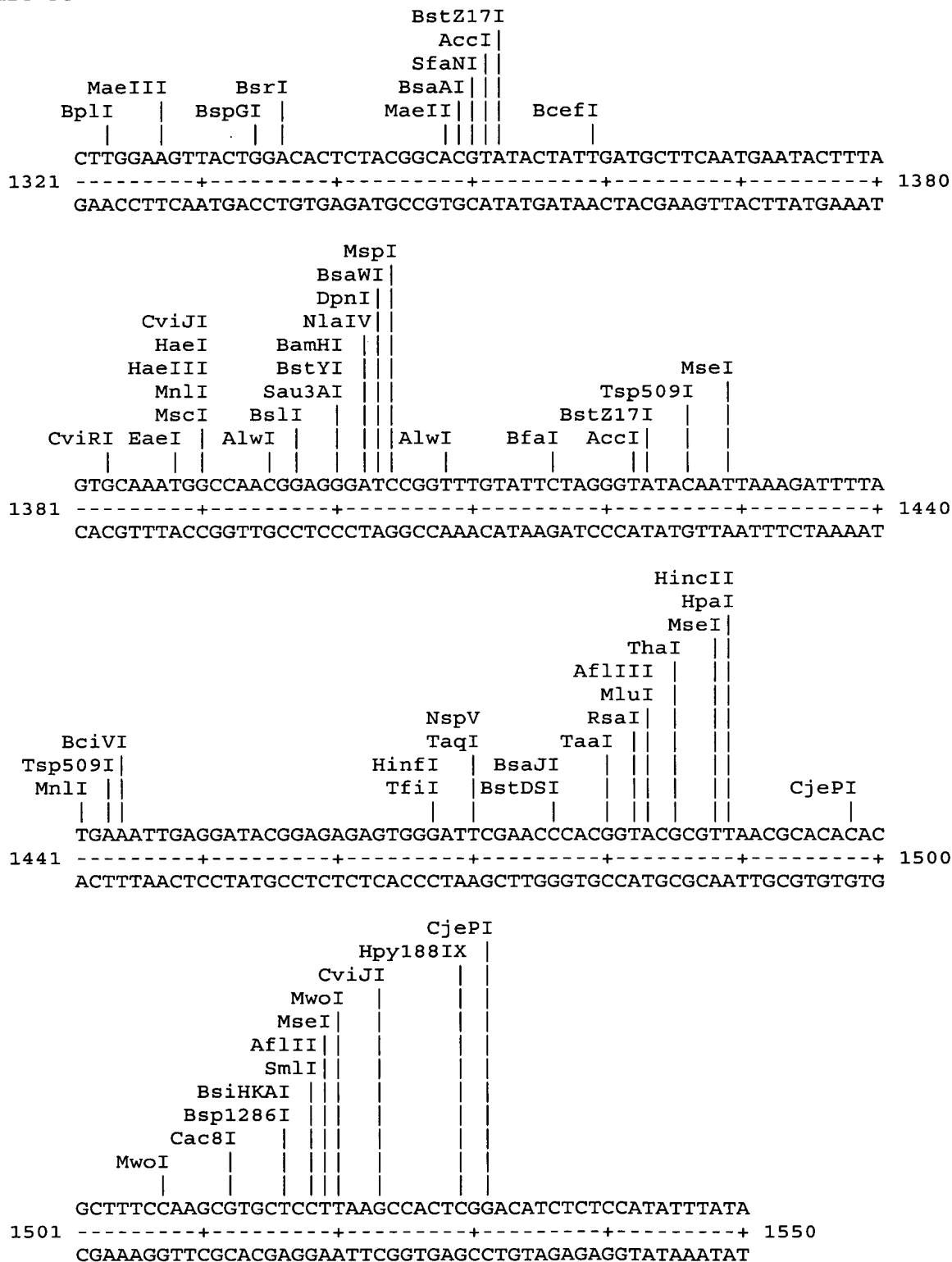
Figure 5F

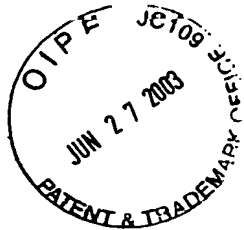




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Figure 5G

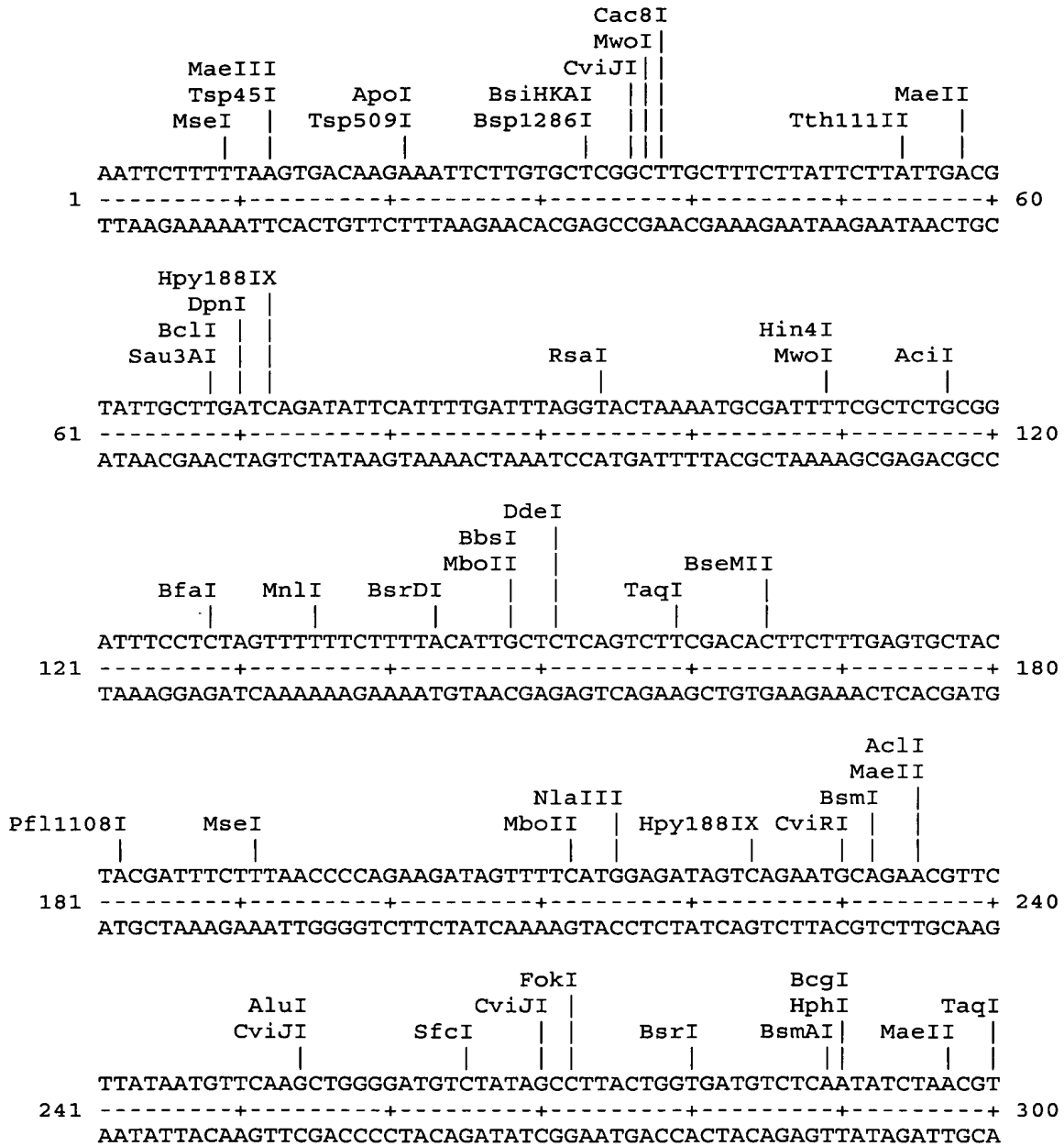


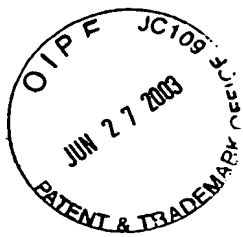


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Figure 6A

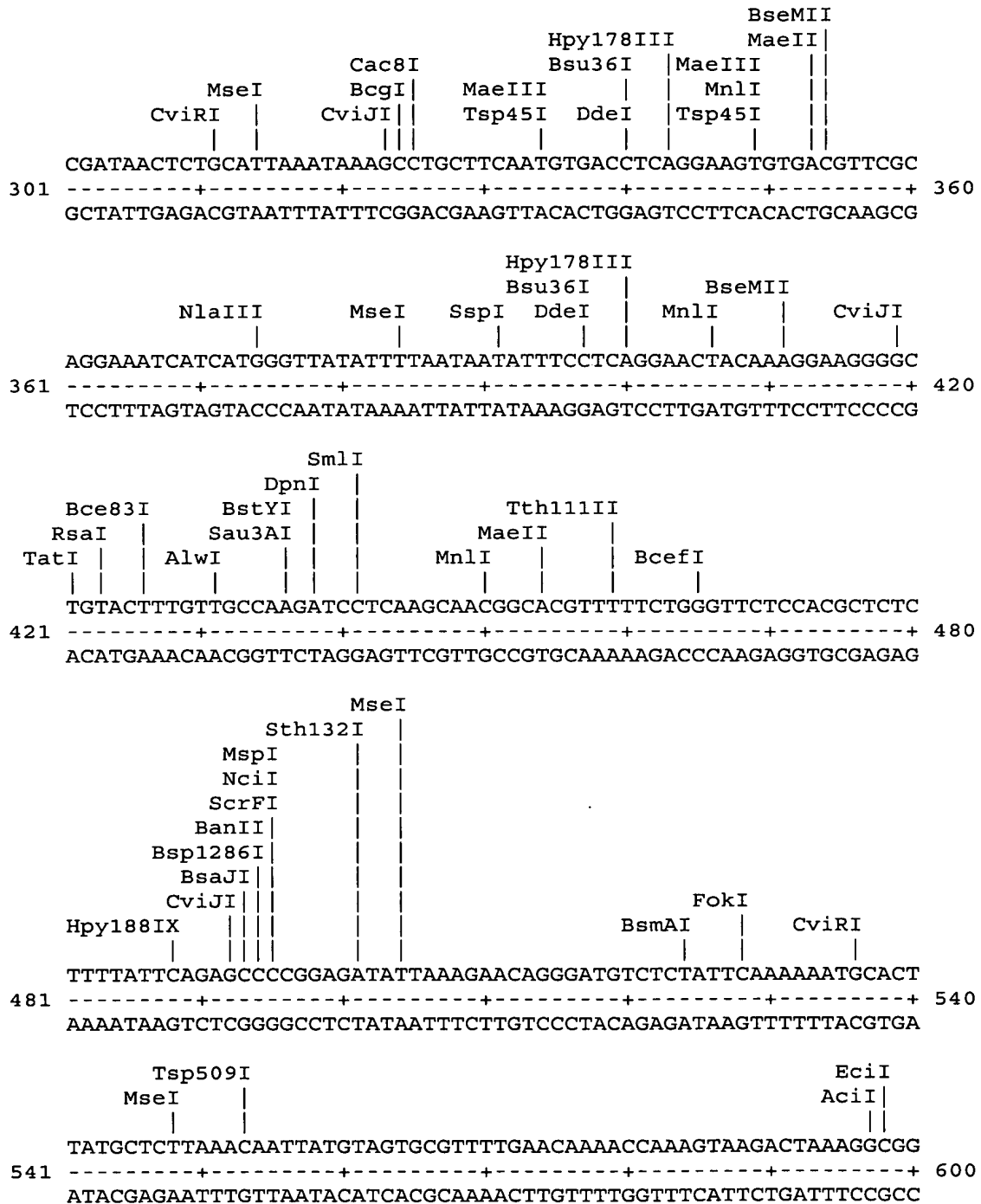
Restriction enzyme analysis of CPN100877 (RY 61 - SEQ ID NO. 6)

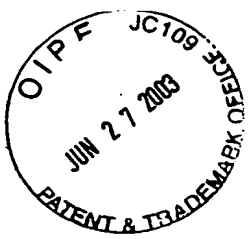




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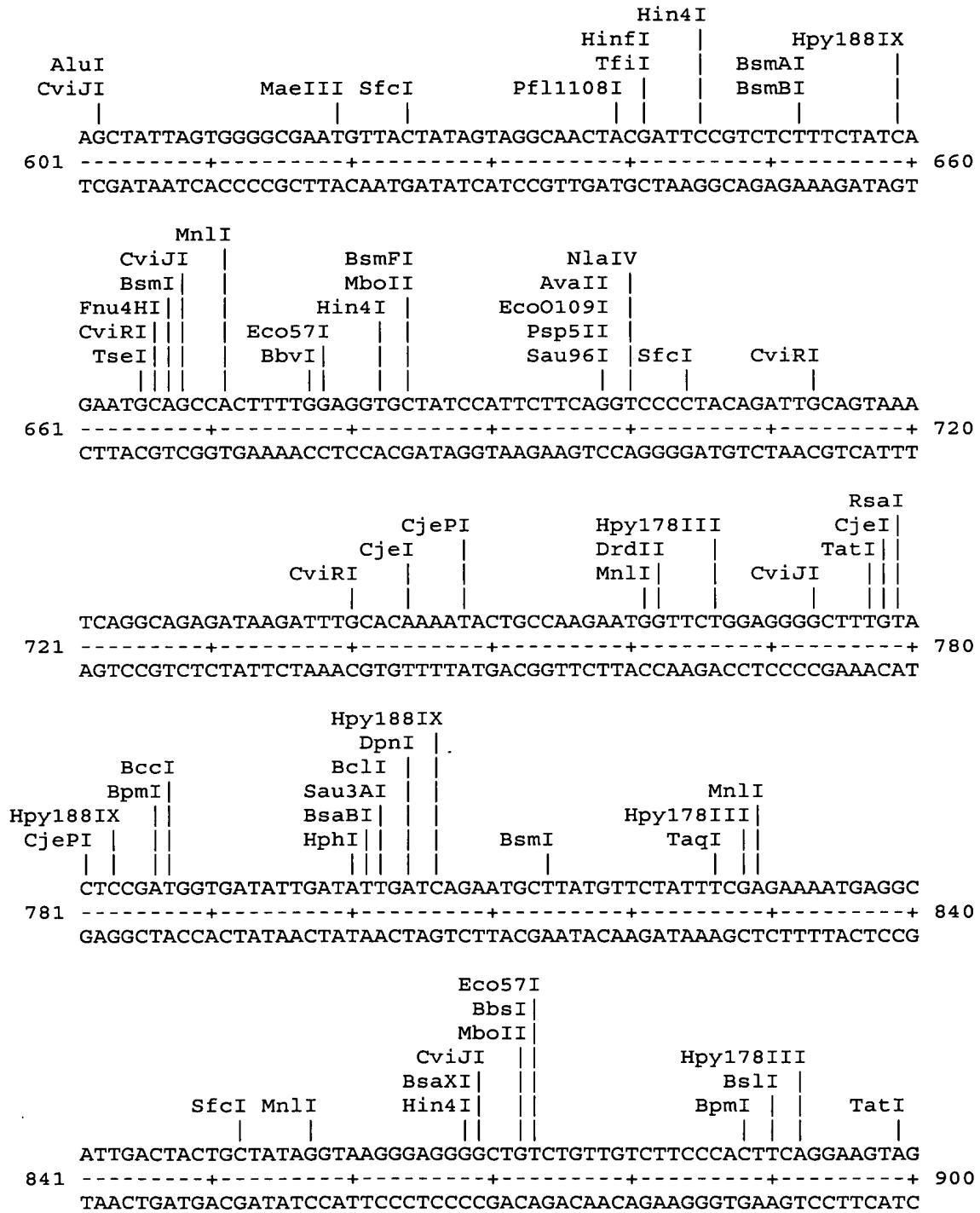
Figure 6B

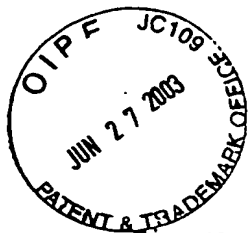




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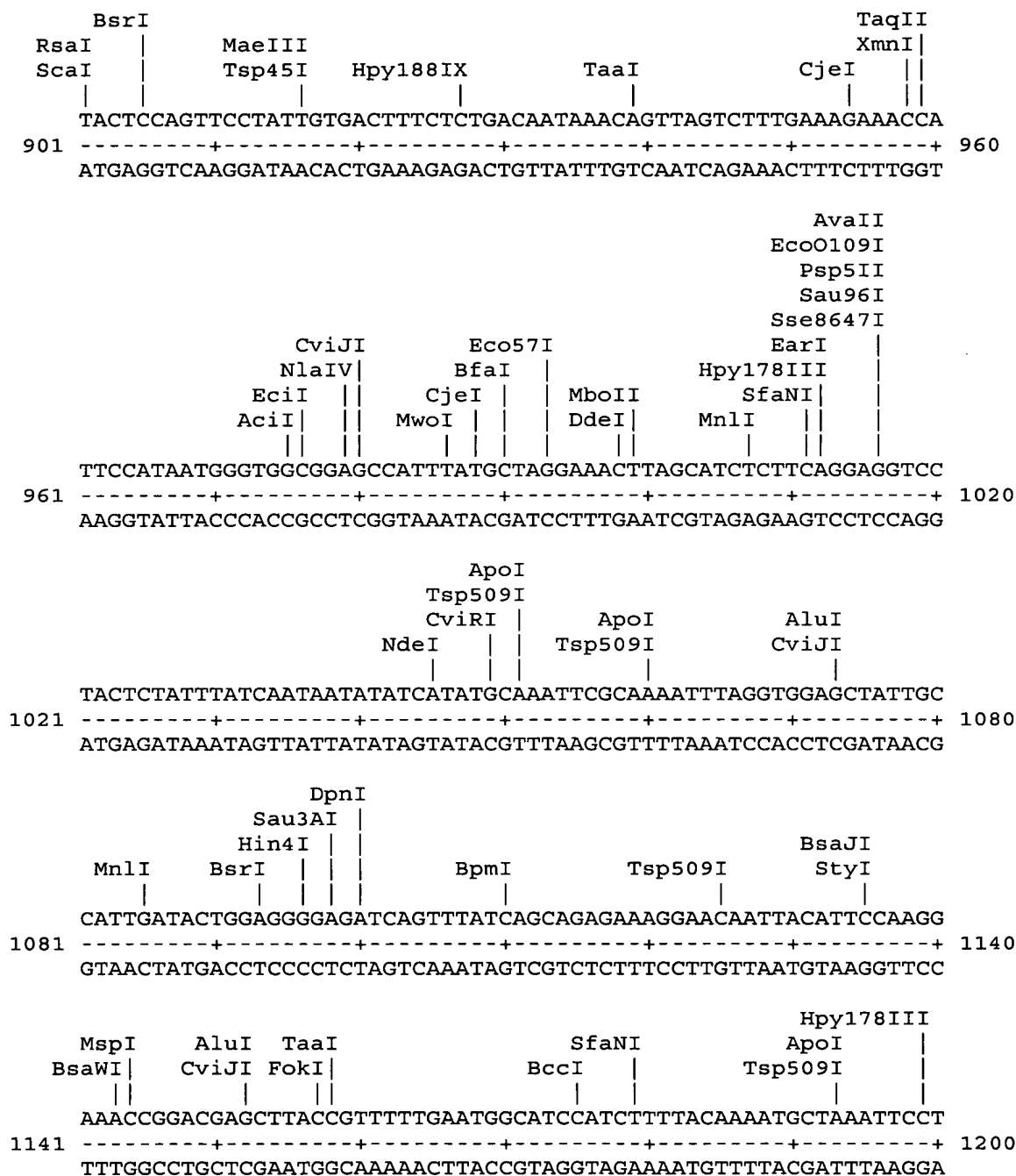
Figure 5C

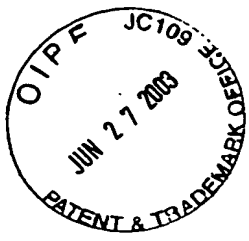




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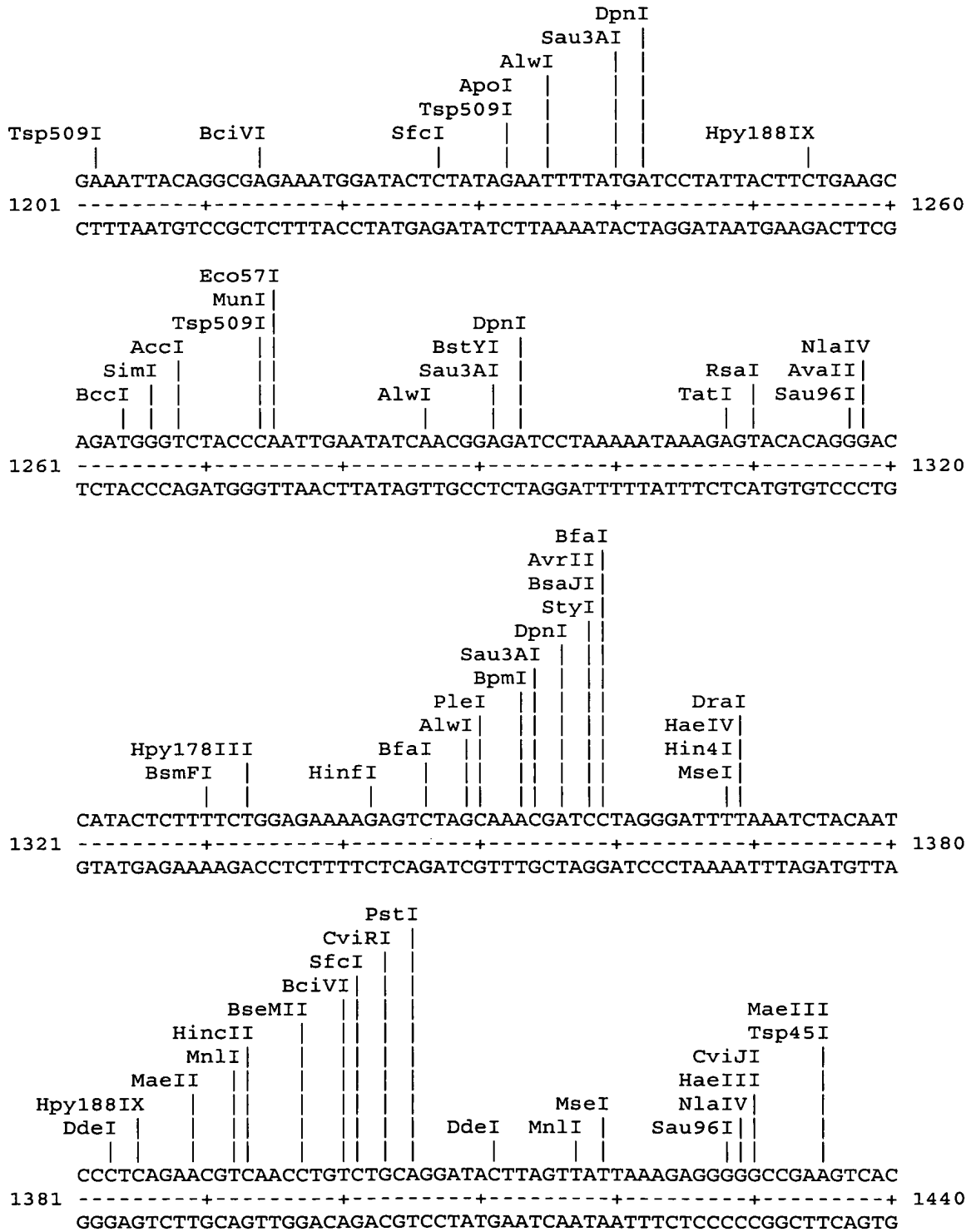
Figure 6D

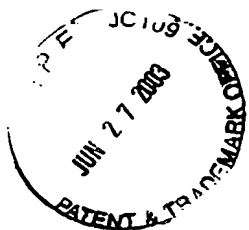




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Figure 6E

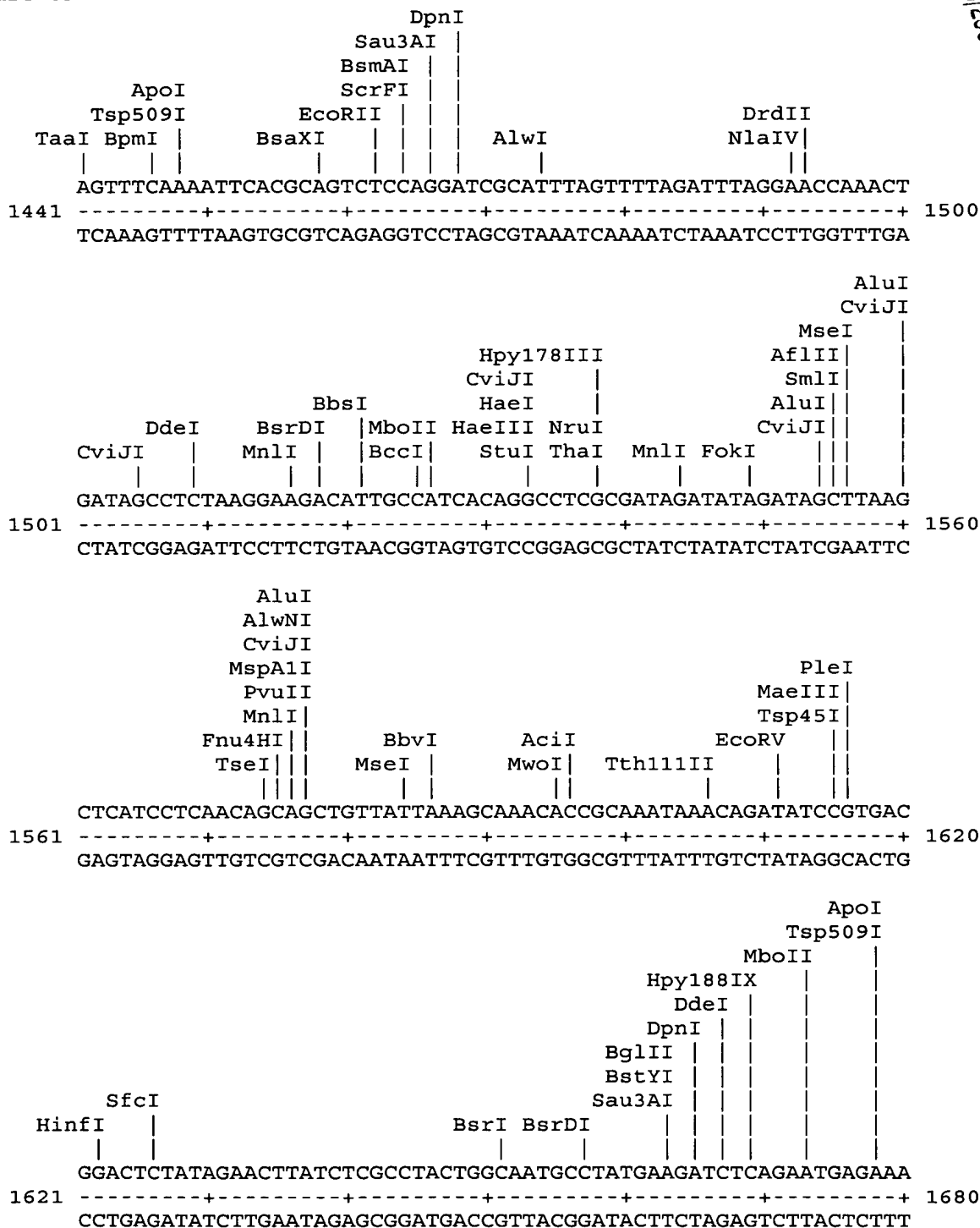


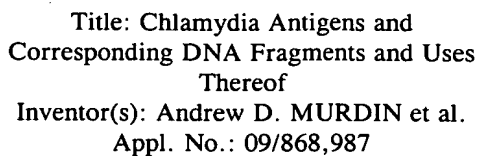


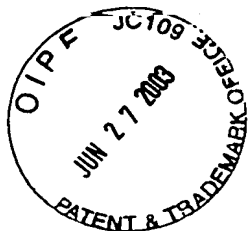
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Figure 6F

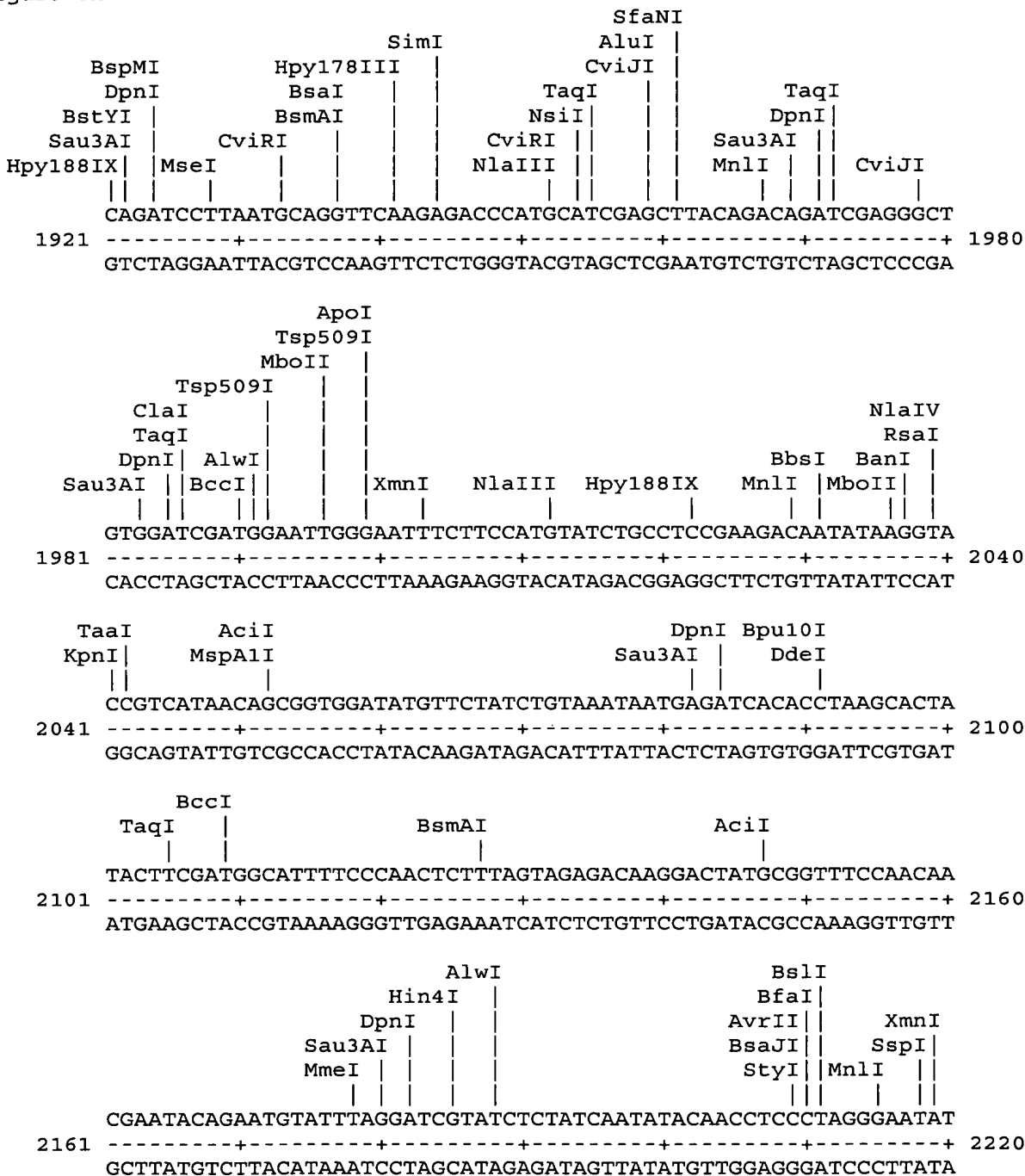


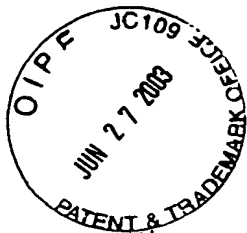
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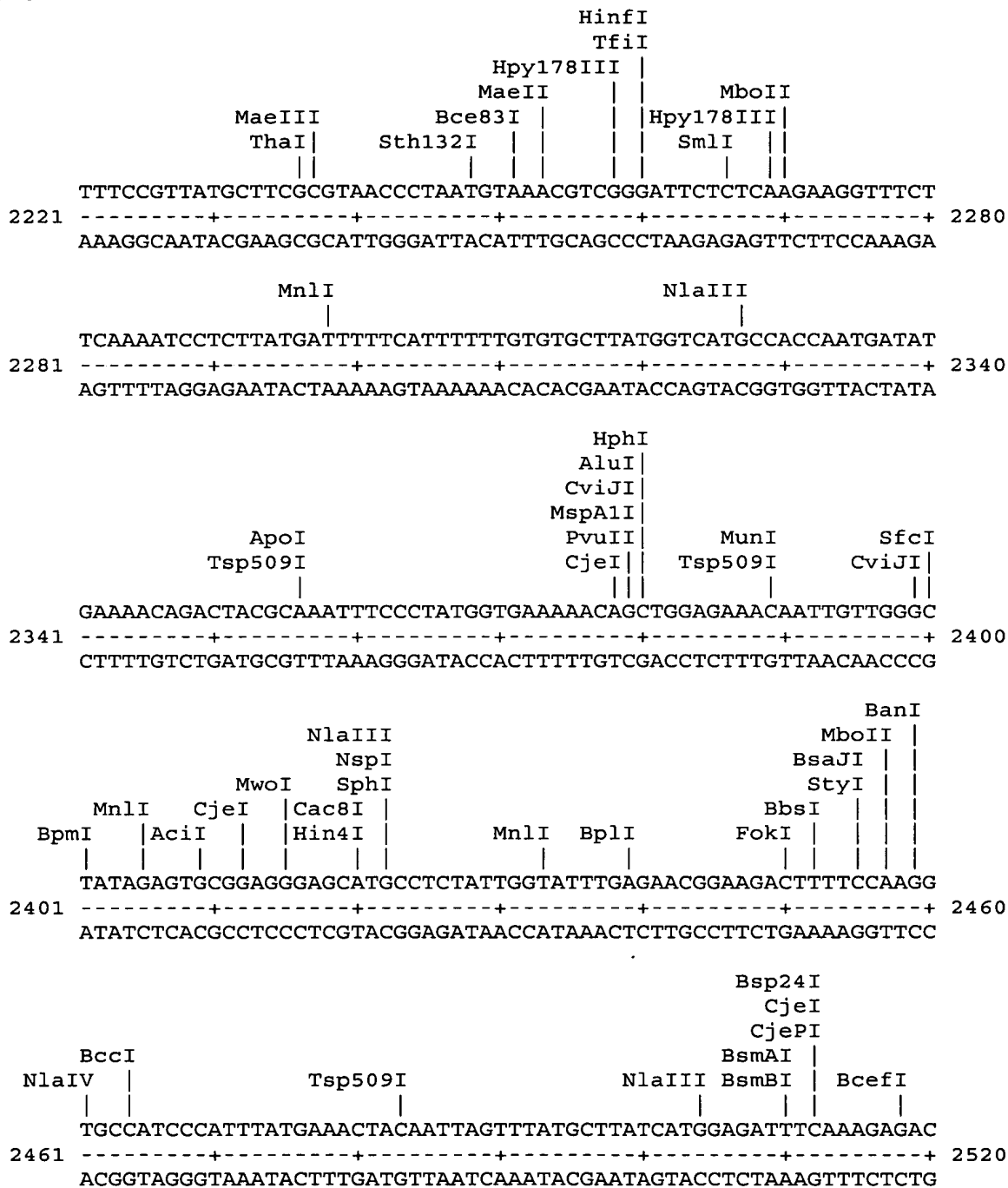
Figure 6H

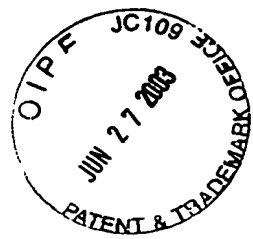




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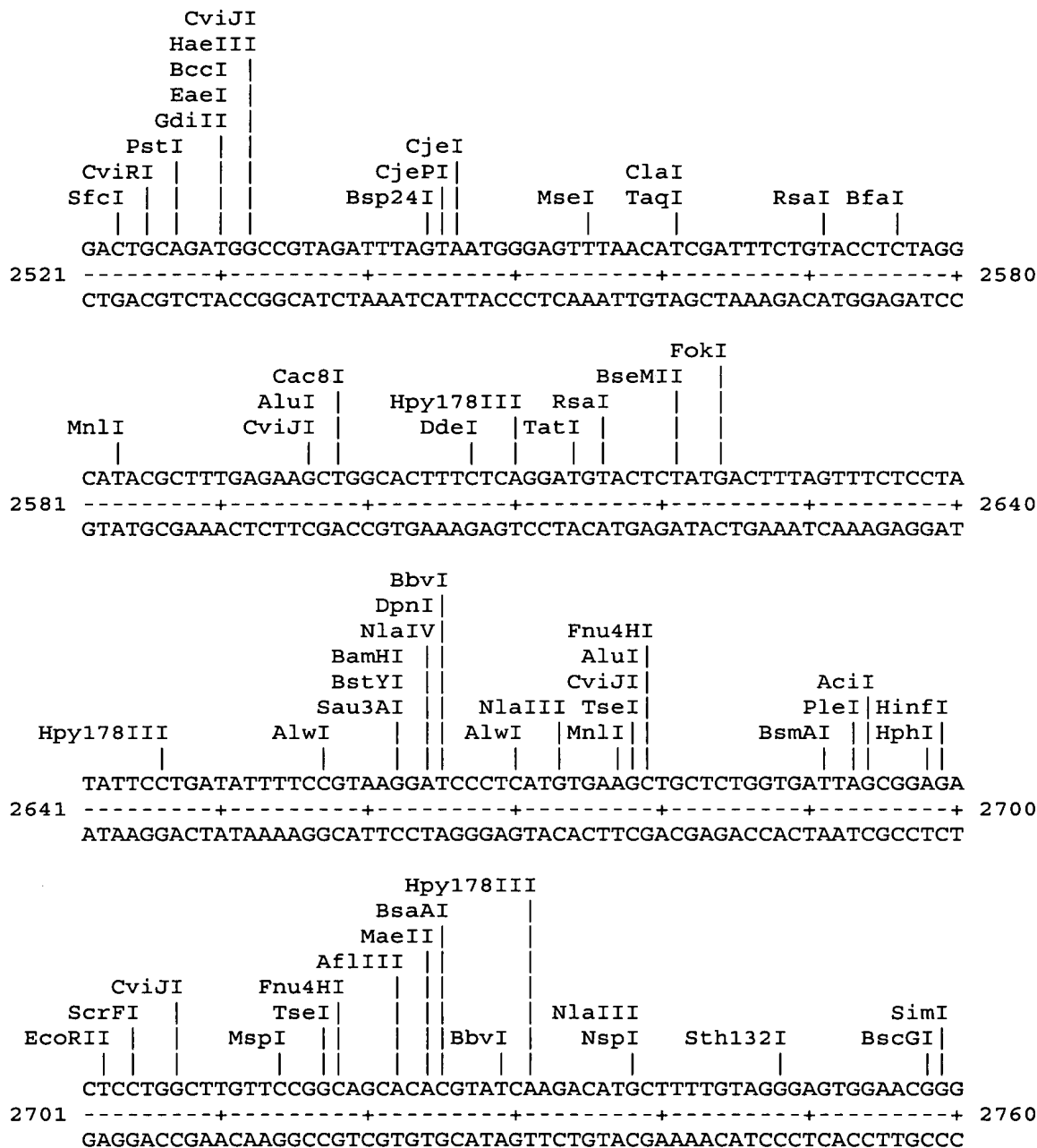
Figure 6I

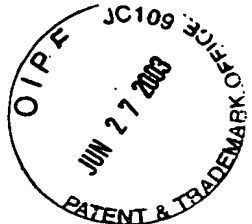




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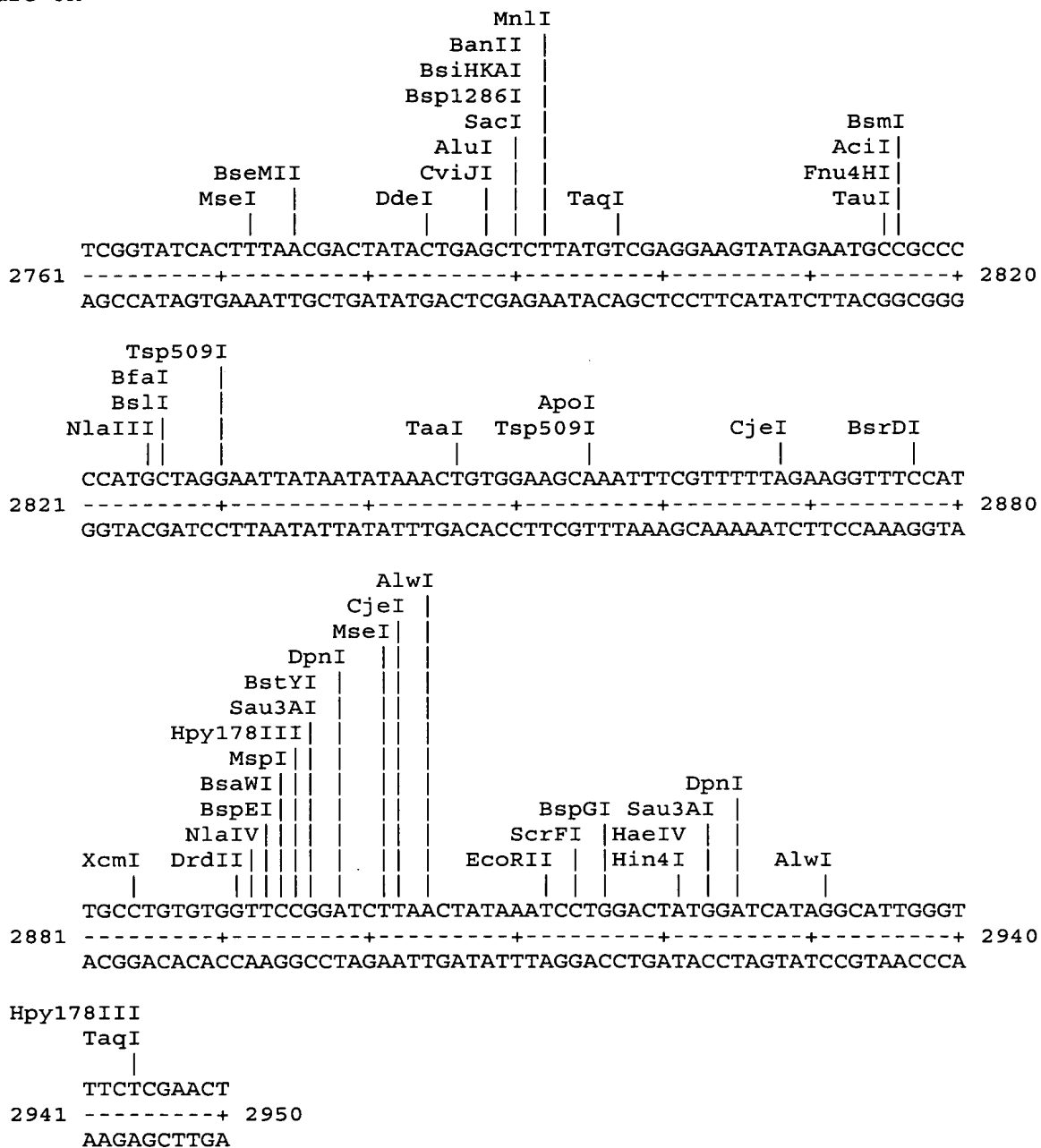
Figure 6J

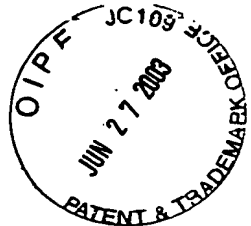




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Figure 6K

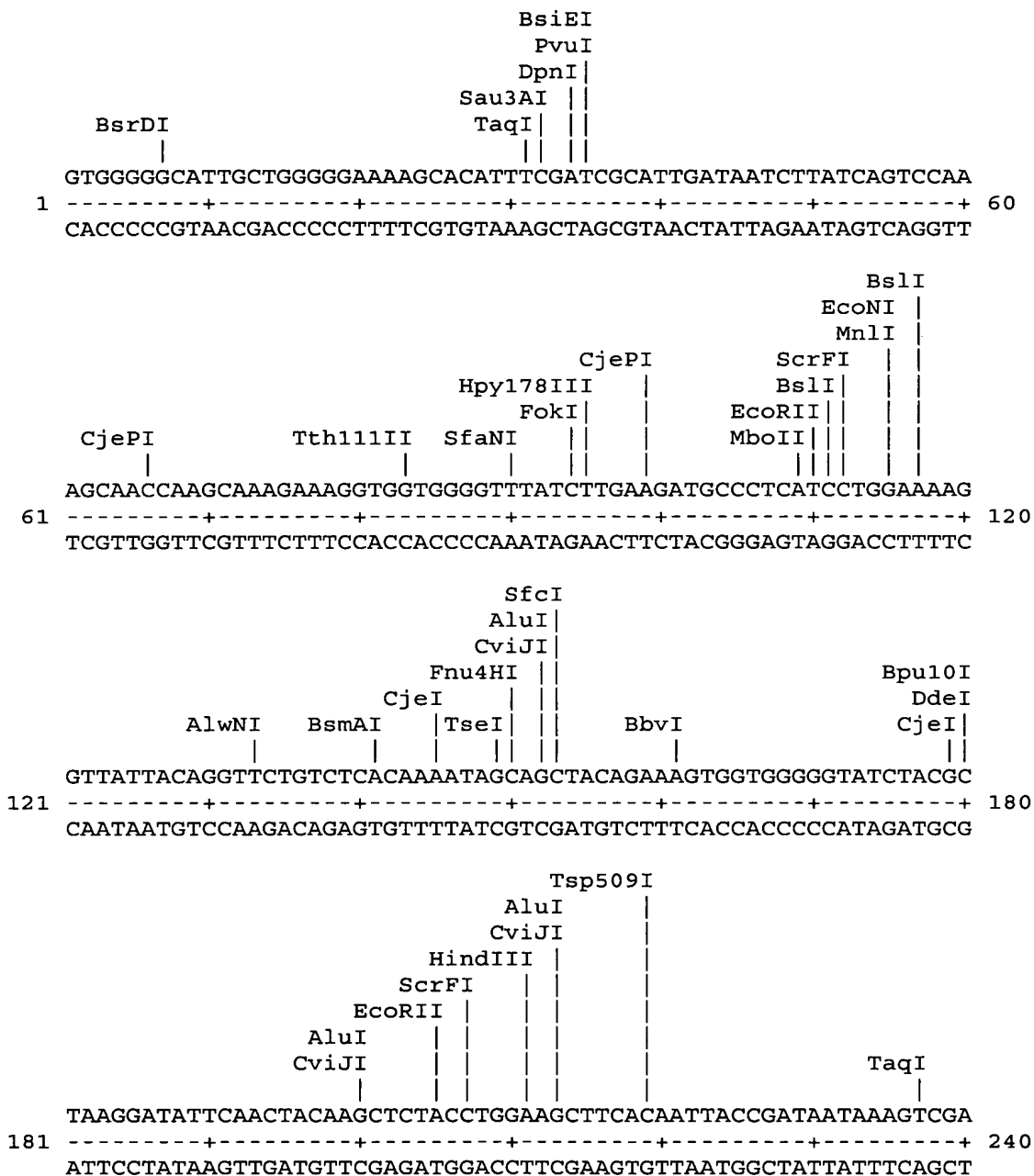


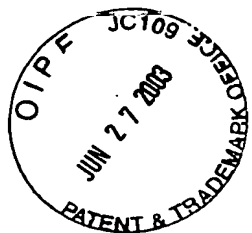


Title: Chlamydia Antigens and
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Thereof
Inventor(s): Andrew D. MURDIN et al.
Appl. No.: 09/868,987

Figure 7A

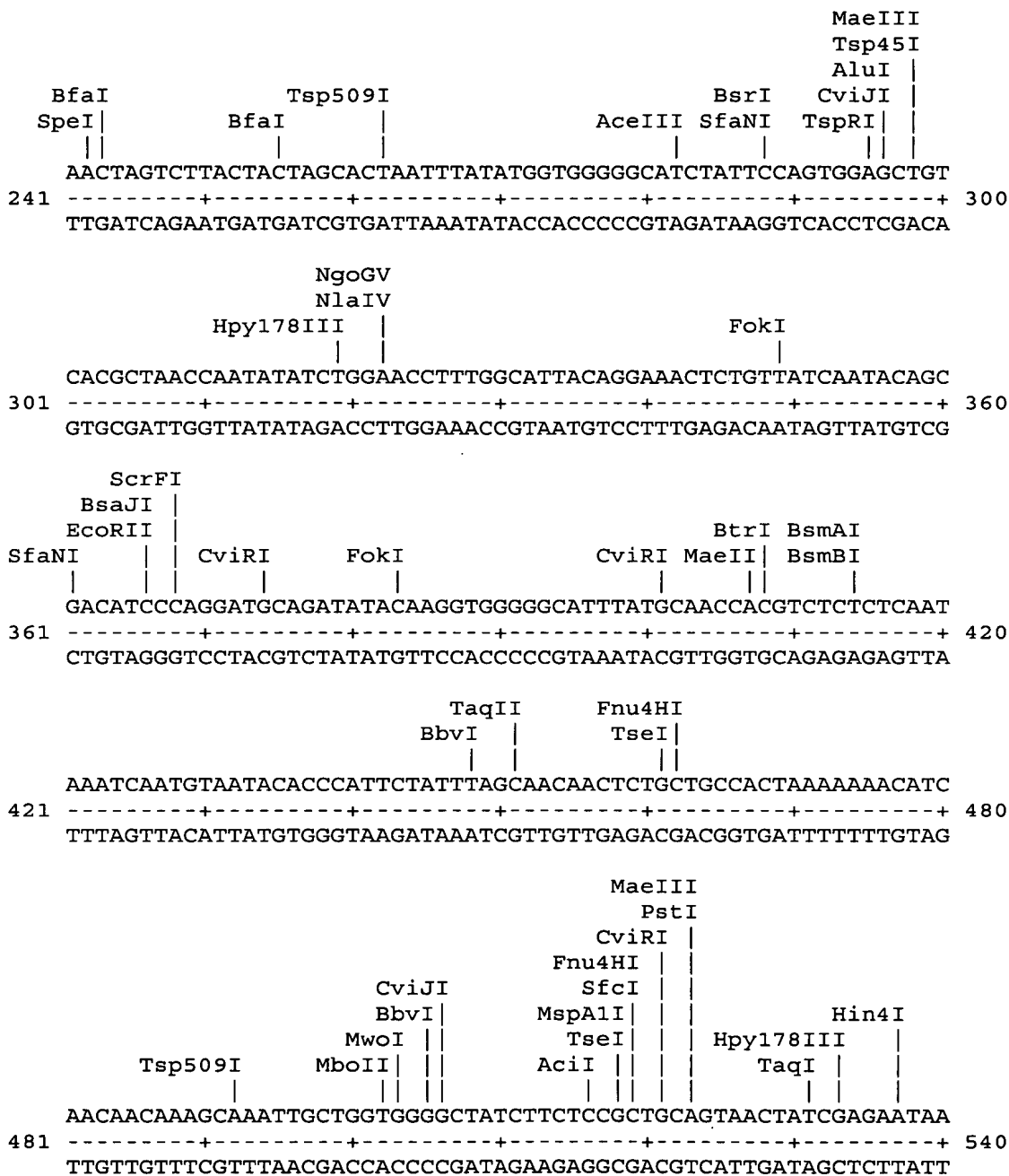
Restriction enzyme analysis of CPN100325 (RY 62 - SEQ ID NO. 7)

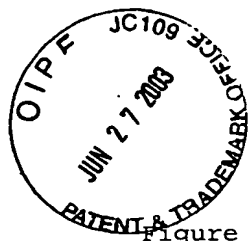




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Corresponding DNA Fragments and Uses
Thereof
Inventor(s): Andrew D. MURDIN et al.
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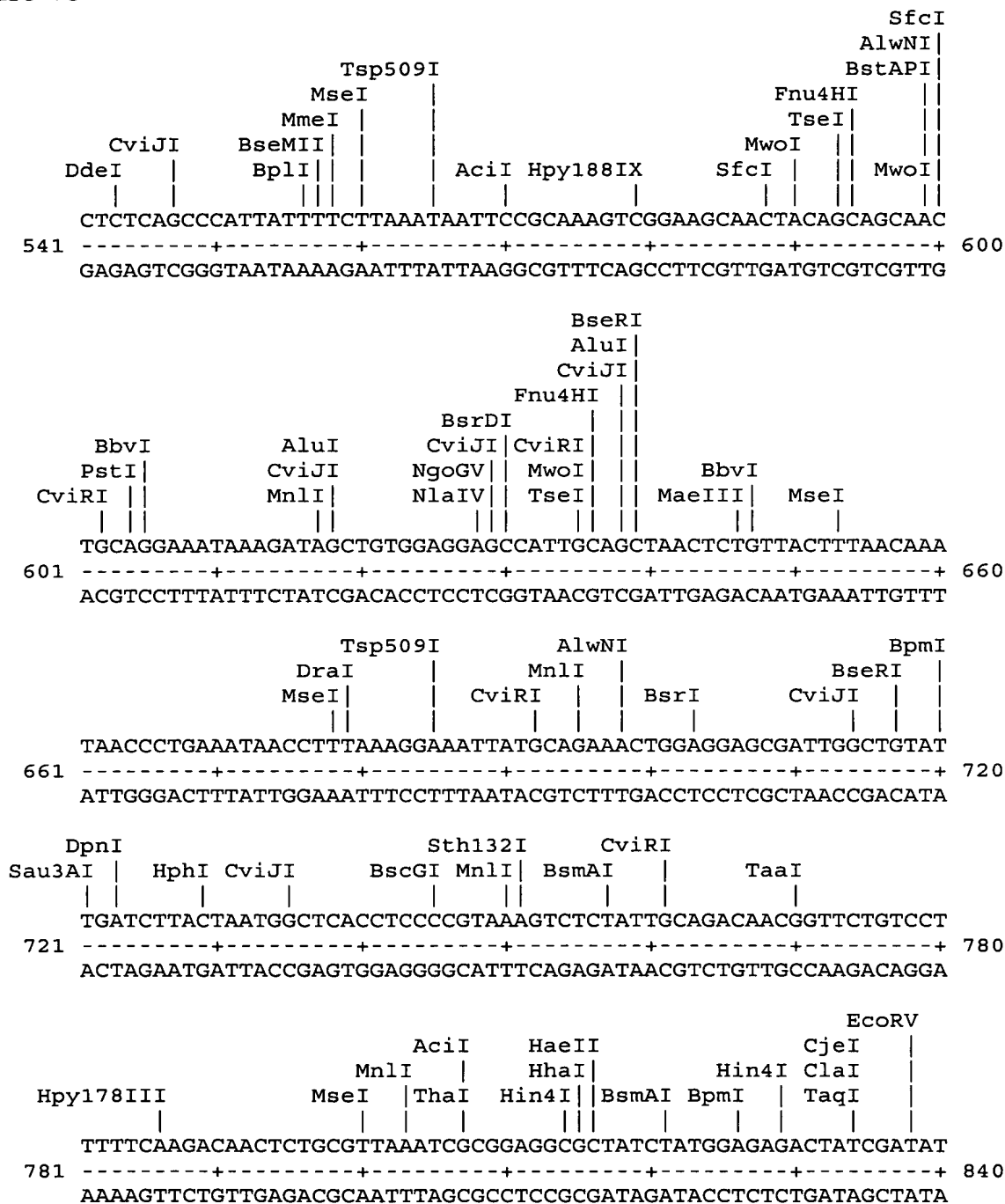
Figure 7B

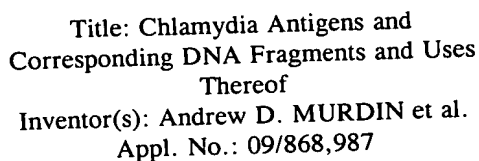


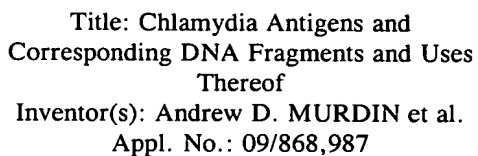


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Corresponding DNA Fragments and Uses
Thereof
Inventor(s): Andrew D. MURDIN et al.
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Figure 7C



[illegible]

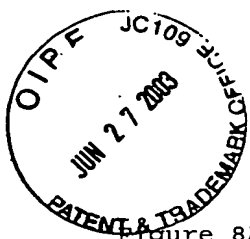


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AluI
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 HindIII
 MwoI
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 CviJI
 MwoI
 SfaNI
 AcI
 MaeII
 HincII
 HpaI
 MseI
 CviRI
 MseI
 Tsp509I
 AluI
 CviJI
 Hpy178III
 MunI
 Tsp509I
 SmlI
 Bce83I
 RsaI
 TatI
 MaeII
 Bsp24I
 CjePI
 CjeI
 BsmFI
 MaeIII
 Tsp45I
 BsaJI
 CjeI
 CjePI
 Bsp24I
 CTNNGGAT
 GANCCCTA

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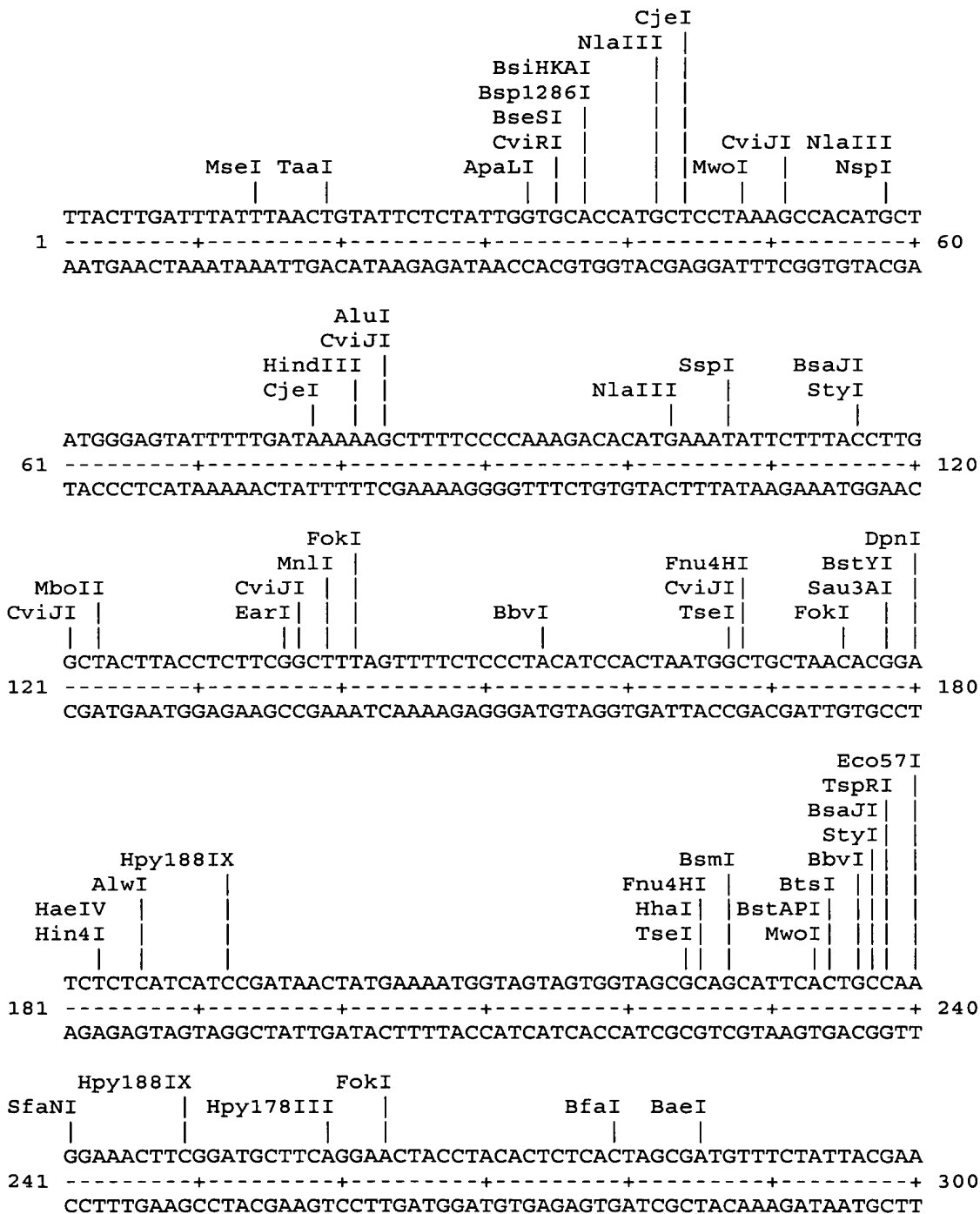
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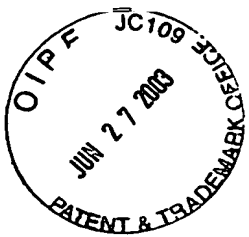


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Corresponding DNA Fragments and Uses
Thereof
Inventor(s): Andrew D. MURDIN et al.
Appl. No.: 09/868,987

Figure 8A

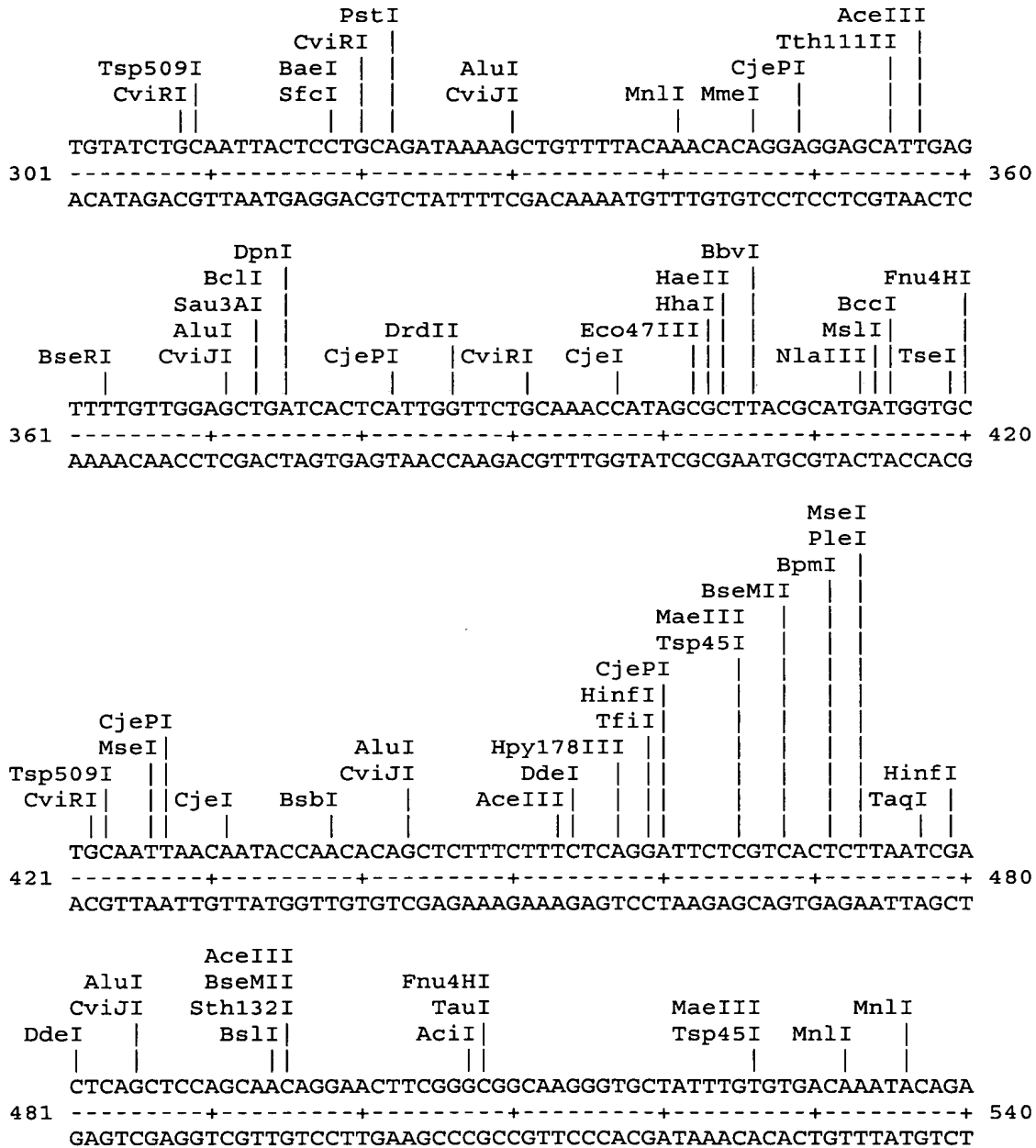
Restriction enzyme analysis of CPN100368 (RY 63 - SEQ ID NO. 8)

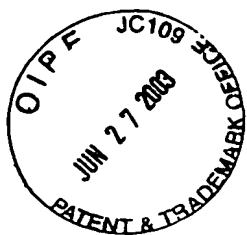




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Inventor(s): Andrew D. MURDIN et al.
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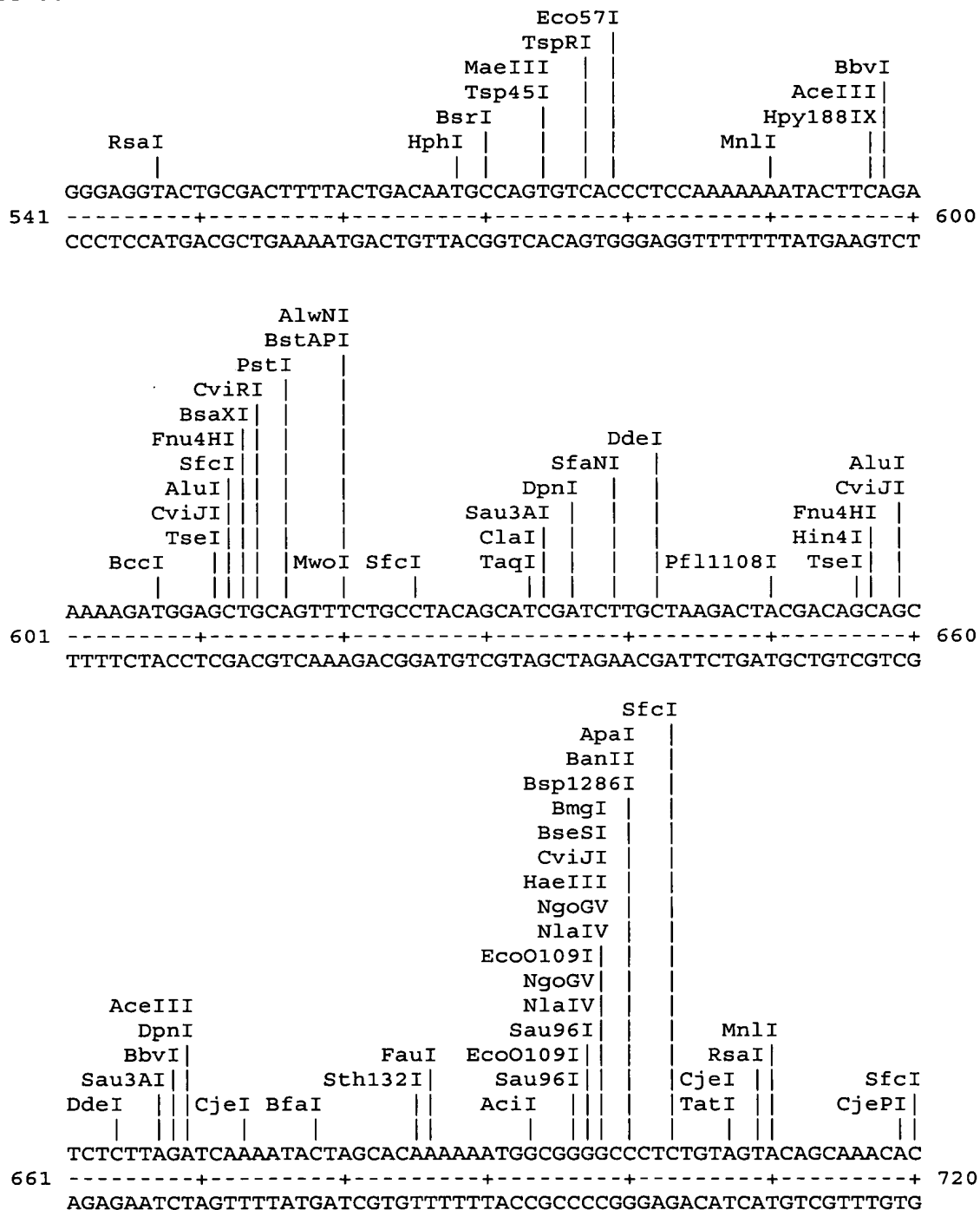
Figure 8B

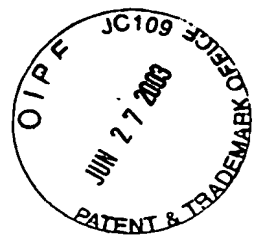




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Thereof
Inventor(s): Andrew D. MURDIN et al.
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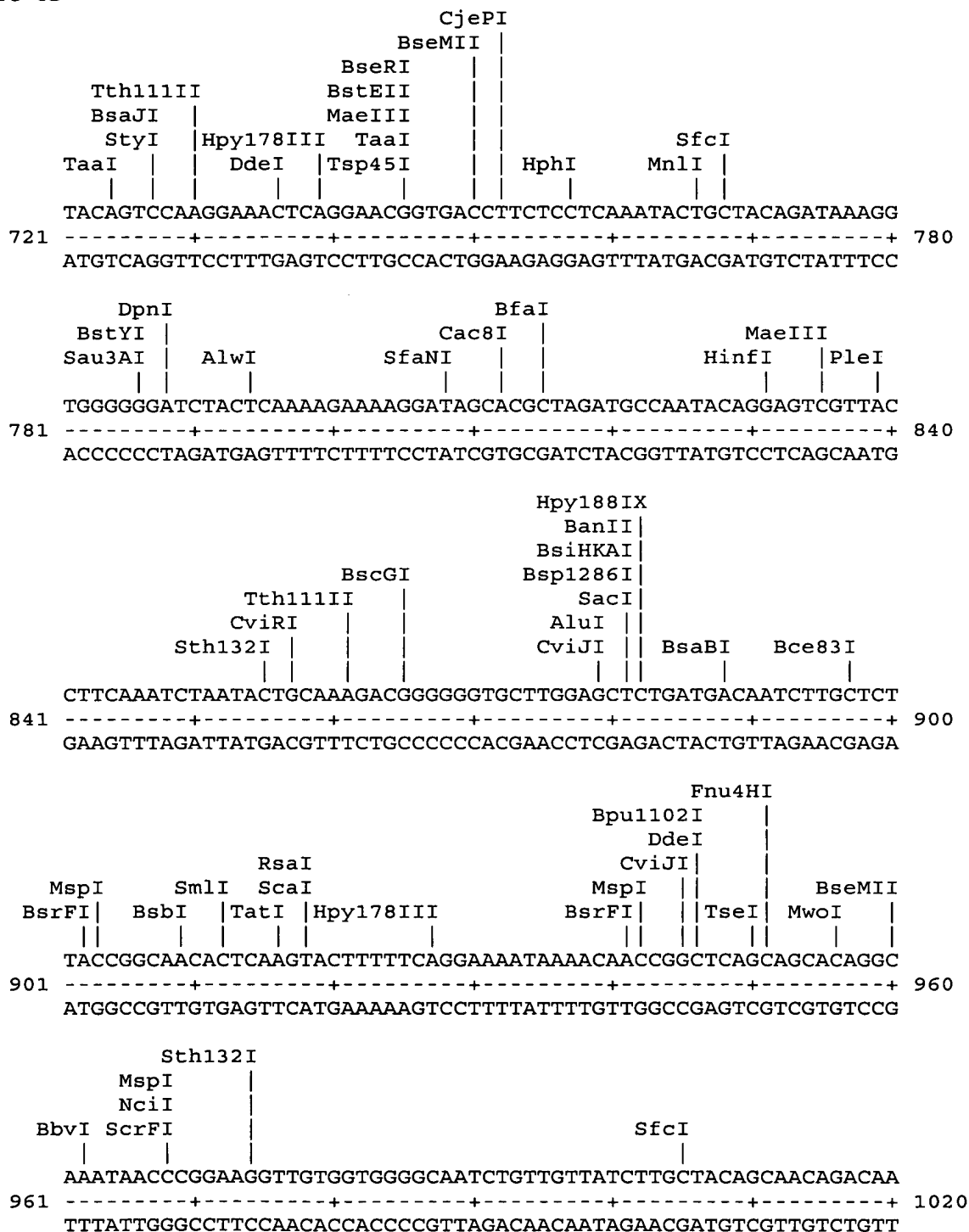
Figure 8C





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Thereof
Inventor(s): Andrew D. MURDIN et al.
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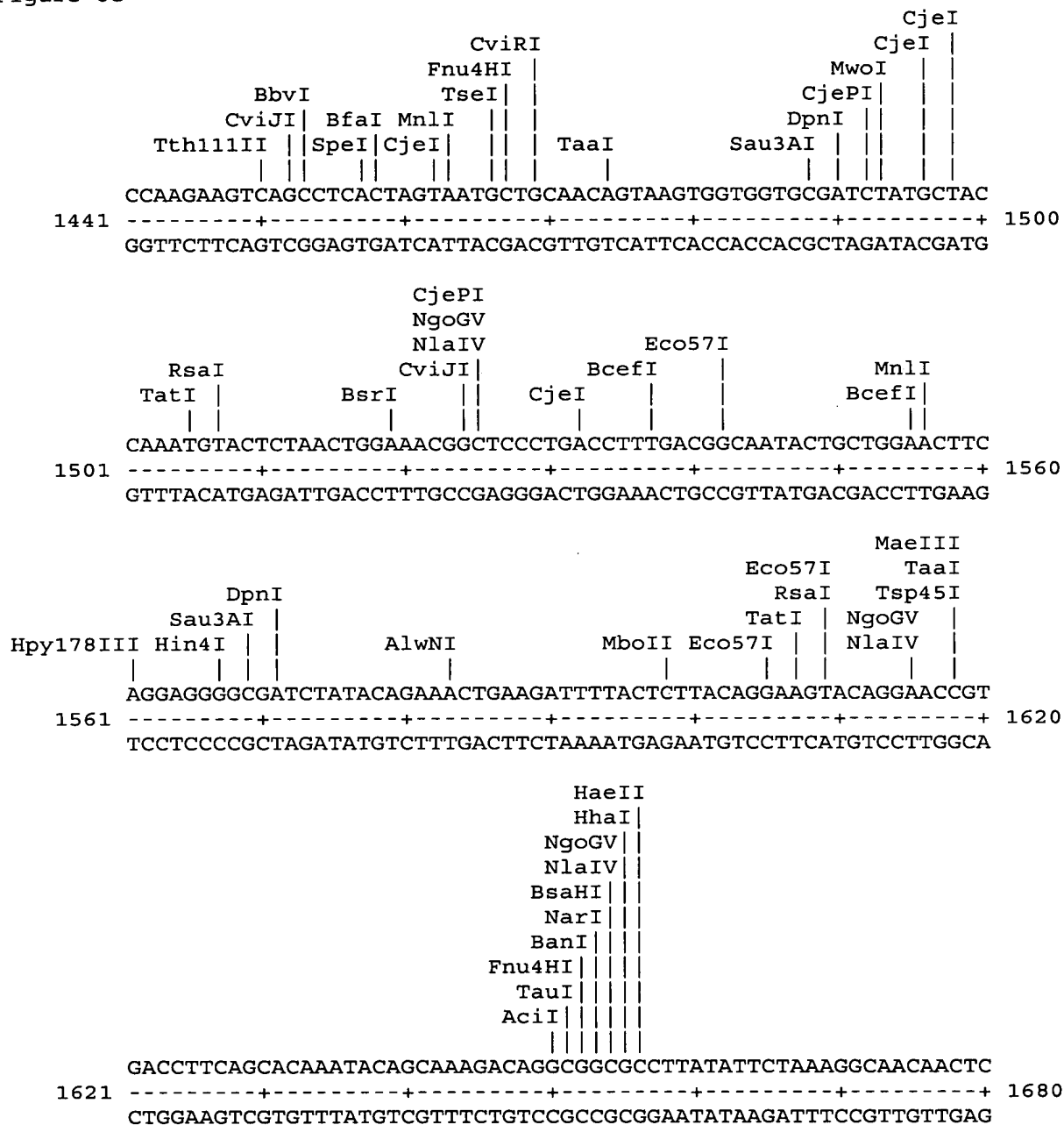
Figure 8D

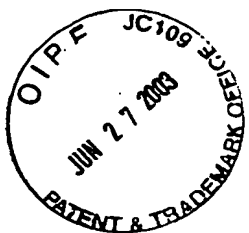




Title: Chlamydia Antigens and
Corresponding DNA Fragments and Uses
Thereof
Inventor(s): Andrew D. MURDIN et al.
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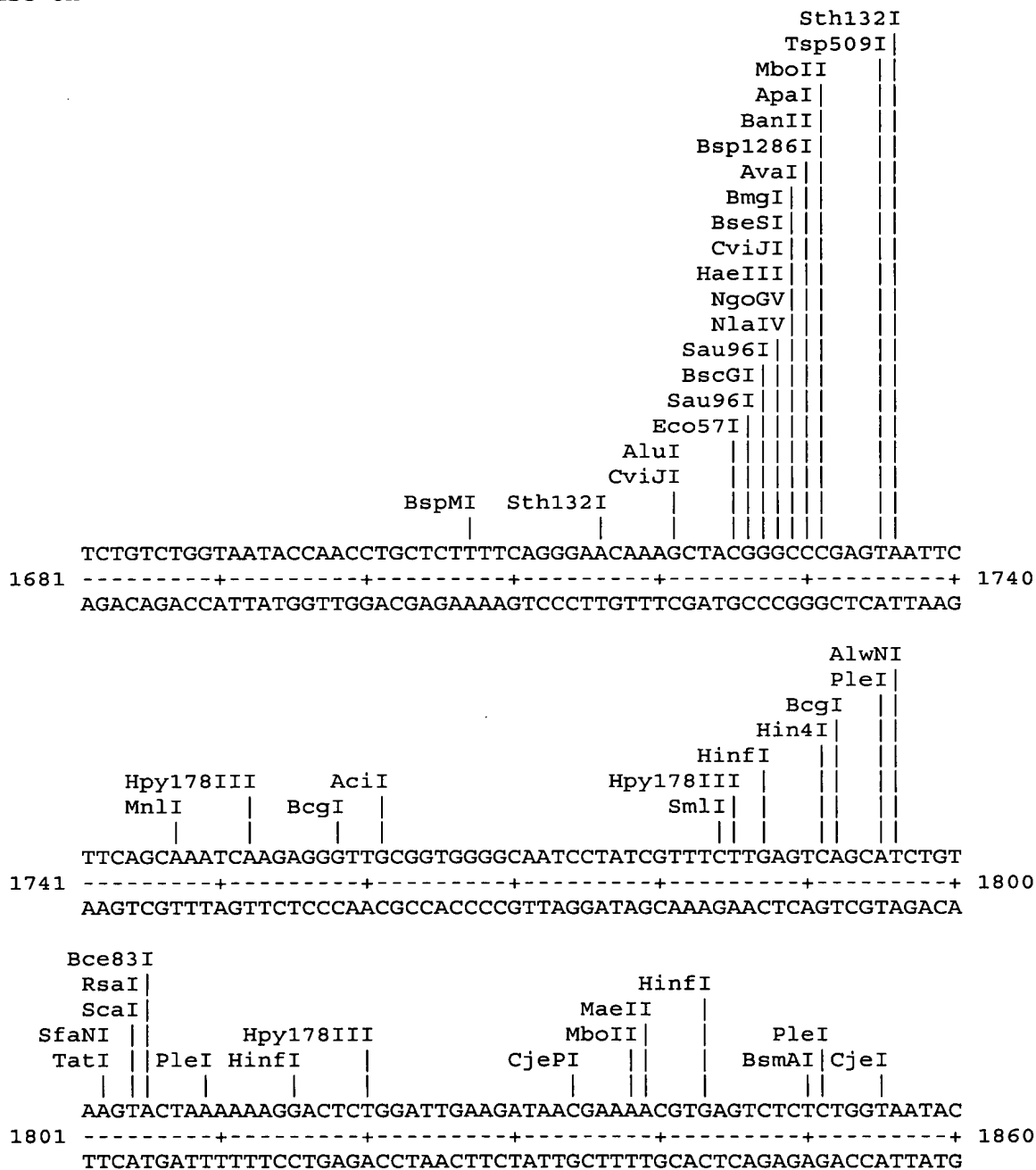
Figure 8G

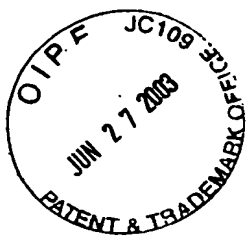




Title: Chlamydia Antigens and
Corresponding DNA Fragments and Uses
Thereof
Inventor(s): Andrew D. MURDIN et al.
Appl. No.: 09/868,987

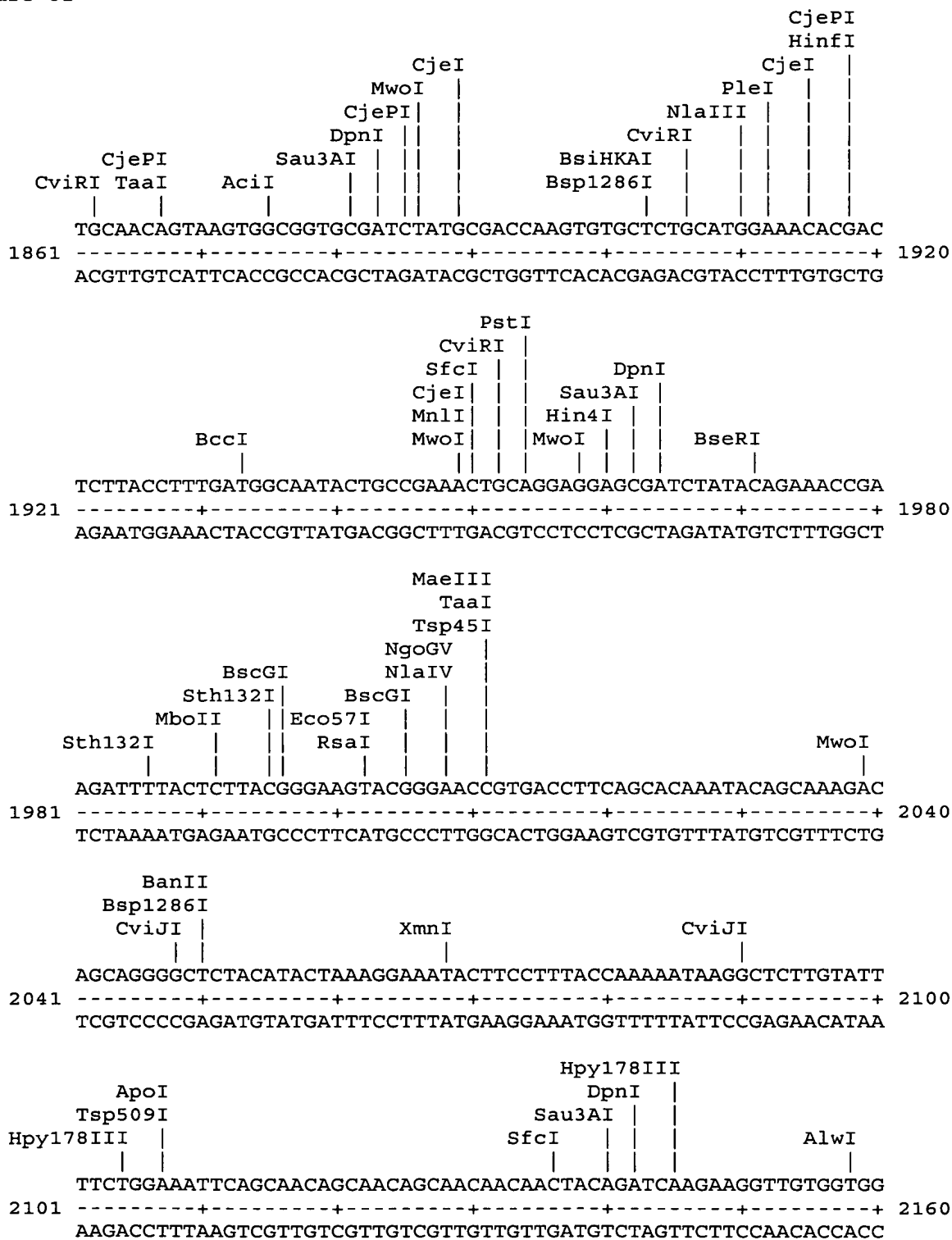
Figure 8H



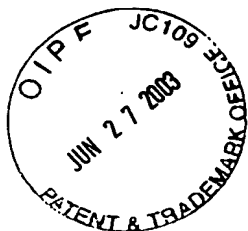


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Corresponding DNA Fragments and Uses
Thereof
Inventor(s): Andrew D. MURDIN et al.
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Figure 8I



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Corresponding DNA Fragments and Uses
Thereof
Inventor(s): Andrew D. MURDIN et al.
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Figure 8L

```

      AvaII
      Sau96I
      BslI
      PflMI
      BsmI
      Bce83I
      MboII
      Hpy178III
      SmlI
      CviJI
      ApoI
      Tsp509I

      Hpy188IX
      BcefI
      BbvI
      Fnu4HI
      TseI
      ApoI
      EcoRI
      Eco57I
      Tsp509I

      AAATGGTCCTATATAGAAGAAAAACGAATGCTCTTTGTAAGGCTCAAGAGTAAAAAATTC
      -----+-----+-----+-----+-----+-----+-----+ 2760
      TTTACCAGGATATATCTTCTTTTTGCTTACGAGAAACATTCCGAGTTCTCATTTTTTTAAG

      TAAAGGTATTCTCTCAATAGGTTCTGAAGTGCTGCCGTAGAATTCATAAATATCTC
      -----+-----+-----+-----+-----+-----+-----+ 2816
      ATTTCCATAAGAGAGTTATCCAAGACTTCACGACGGCATCTTAAGTATTTATAGAG

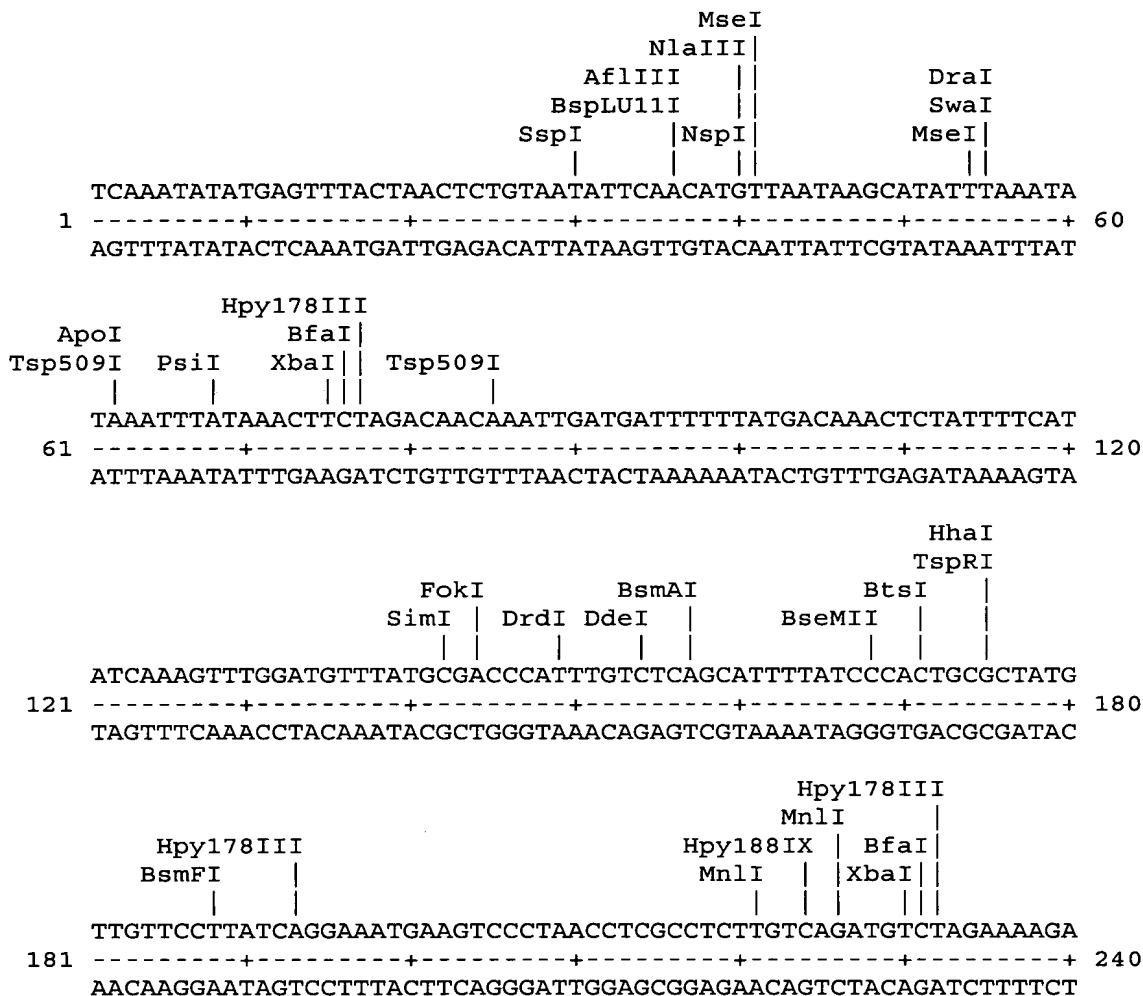
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Thereof
Inventor(s): Andrew D. MURDIN et al.
Appl. No.: 09/868,987

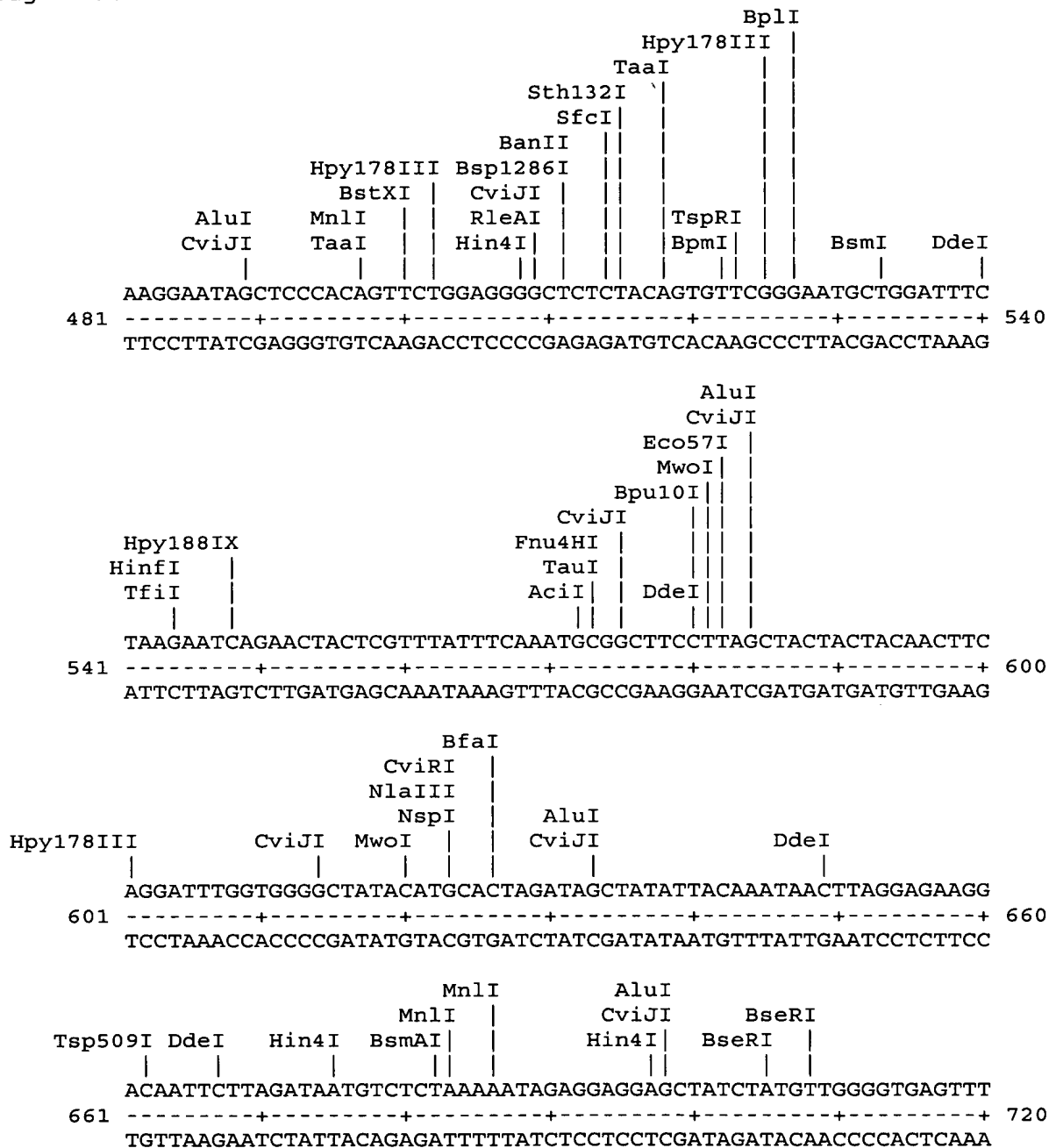
Figure 9A

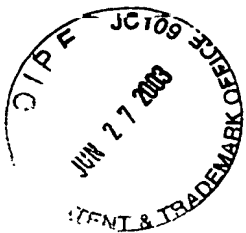
Restriction enzyme analysis of CPN100624 (RY 64 - SEQ ID NO. 9)



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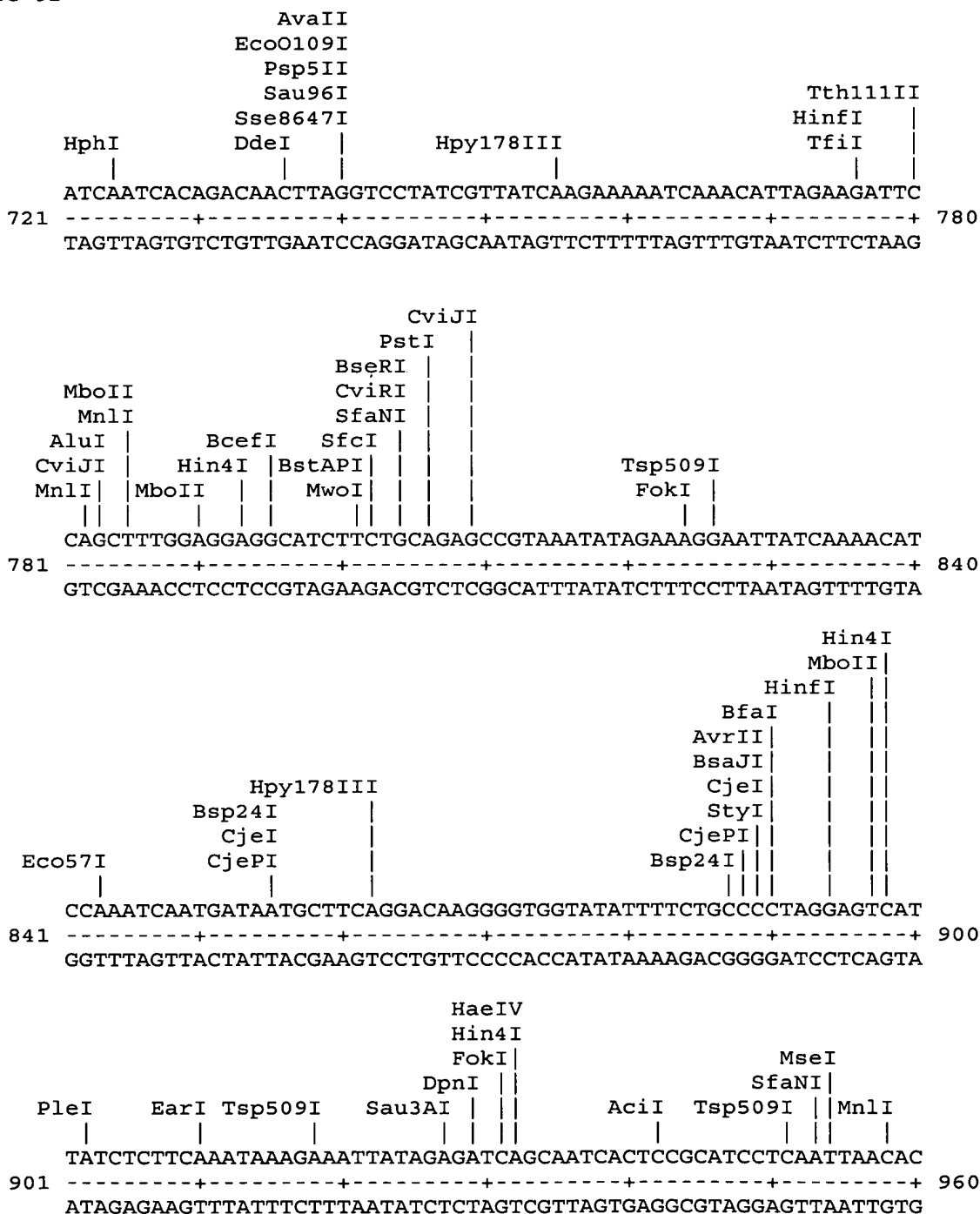
Figure 9C

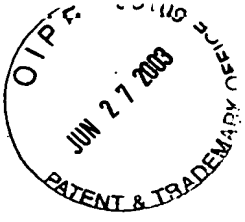




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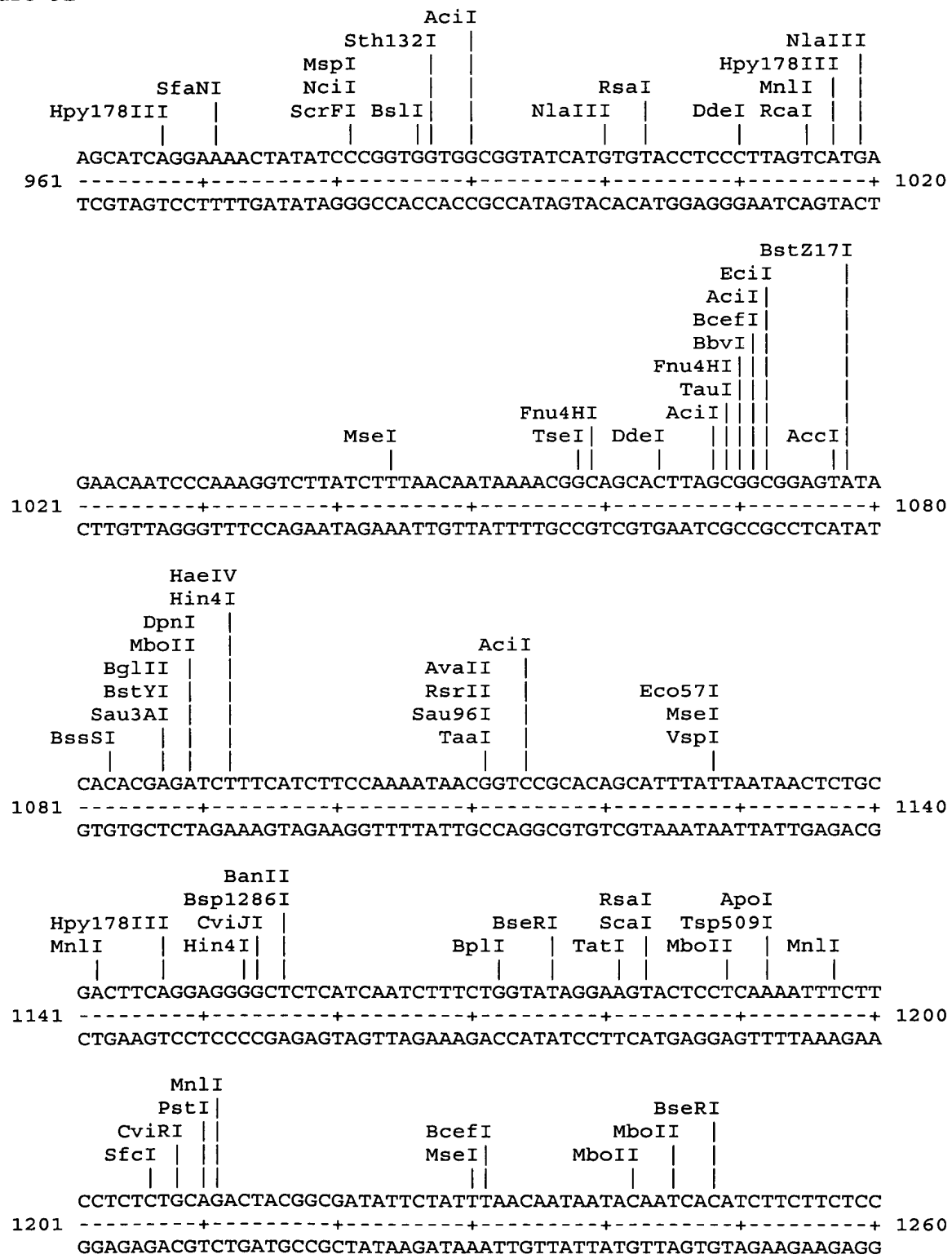
Figure 9D





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Corresponding DNA Fragments and Uses
Thereof
Inventor(s): Andrew D. MURDIN et al.
Appl. No.: 09/868,987

Figure 9E

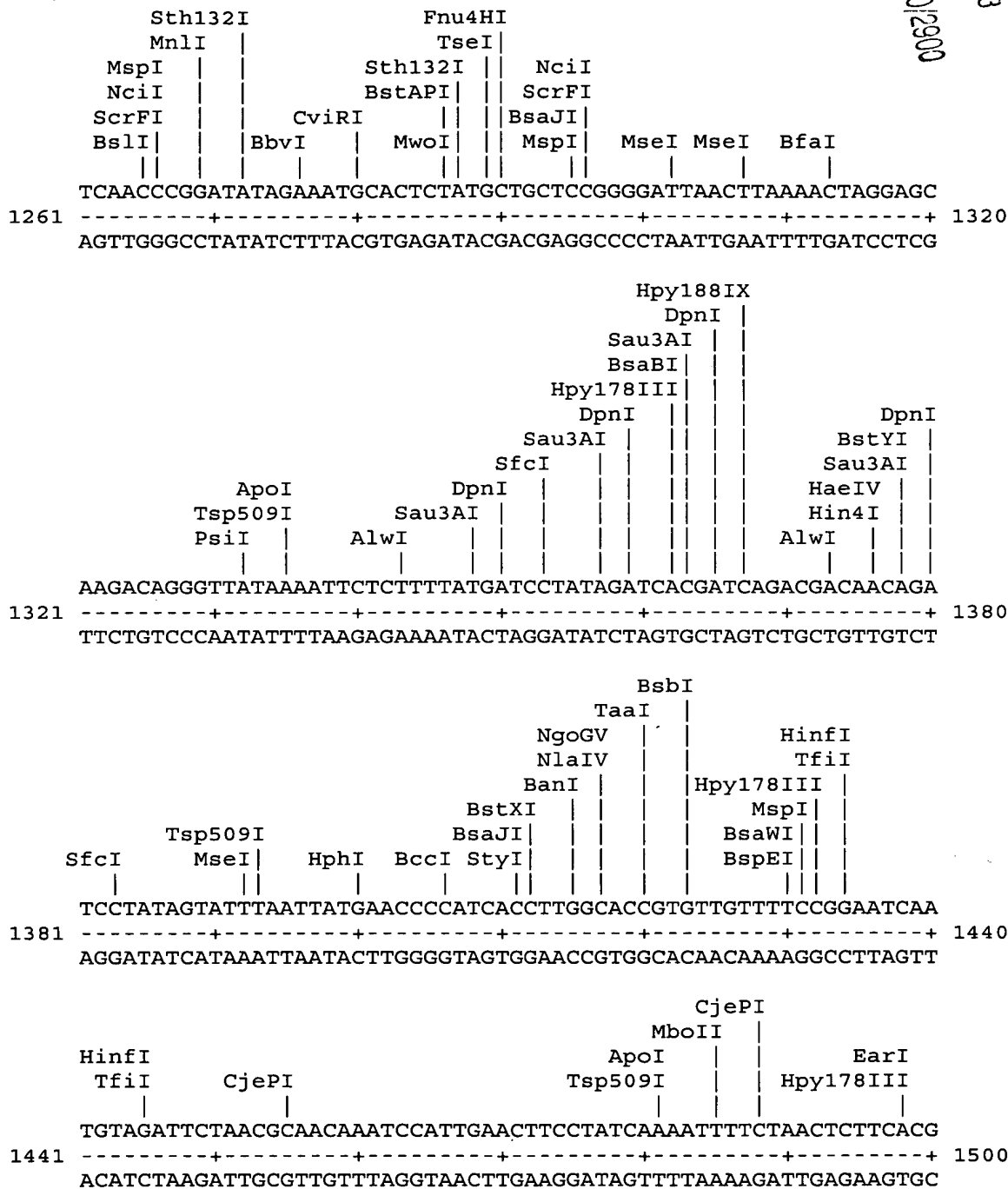


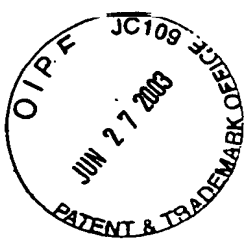


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Inventor(s): Andrew D. MURDIN et al.
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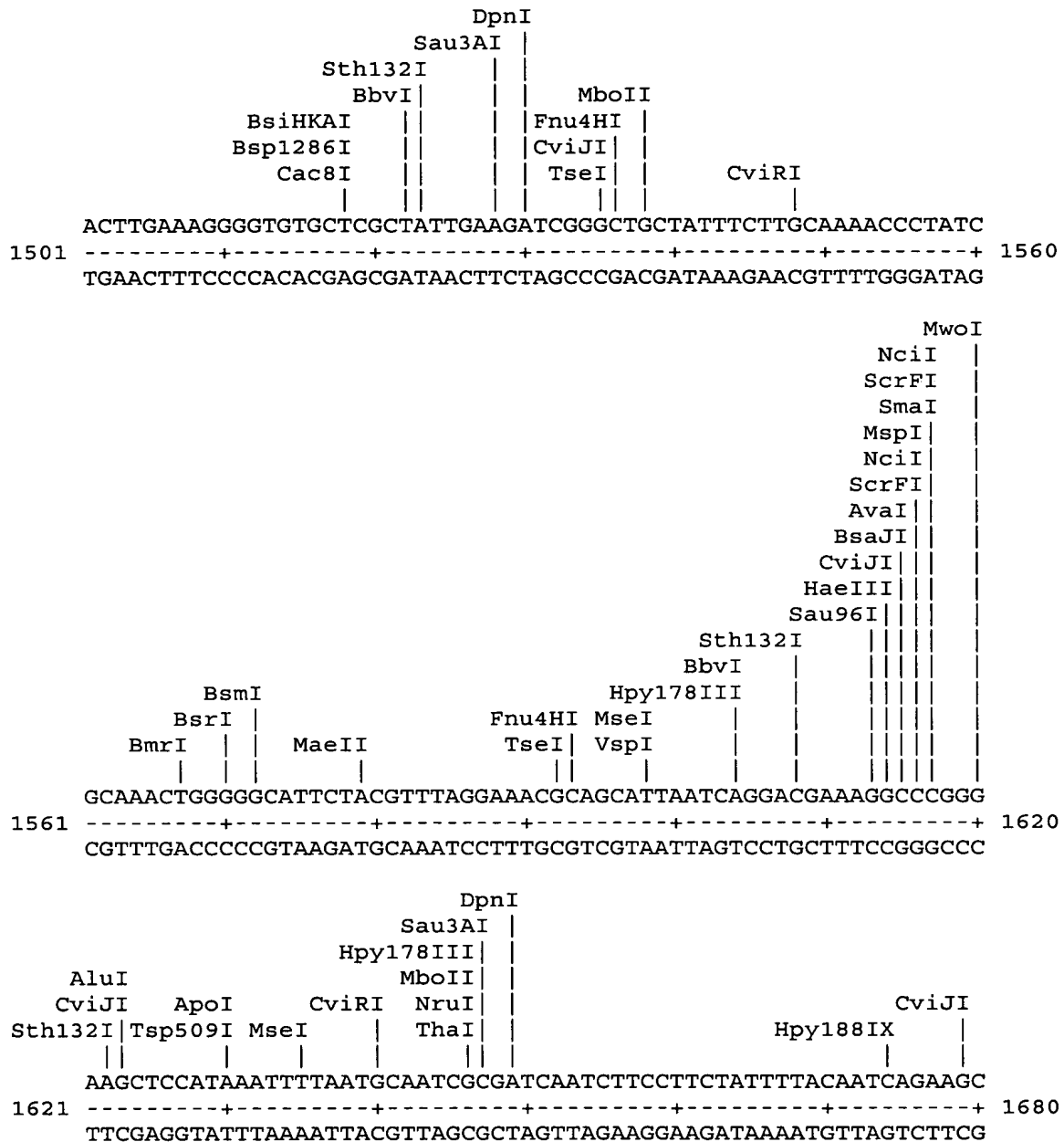
Figure 9F

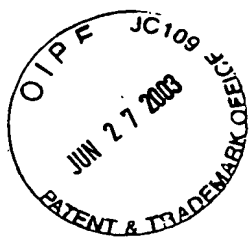




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Inventor(s): Andrew D. MURDIN et al.
Appl. No.: 09/868,987

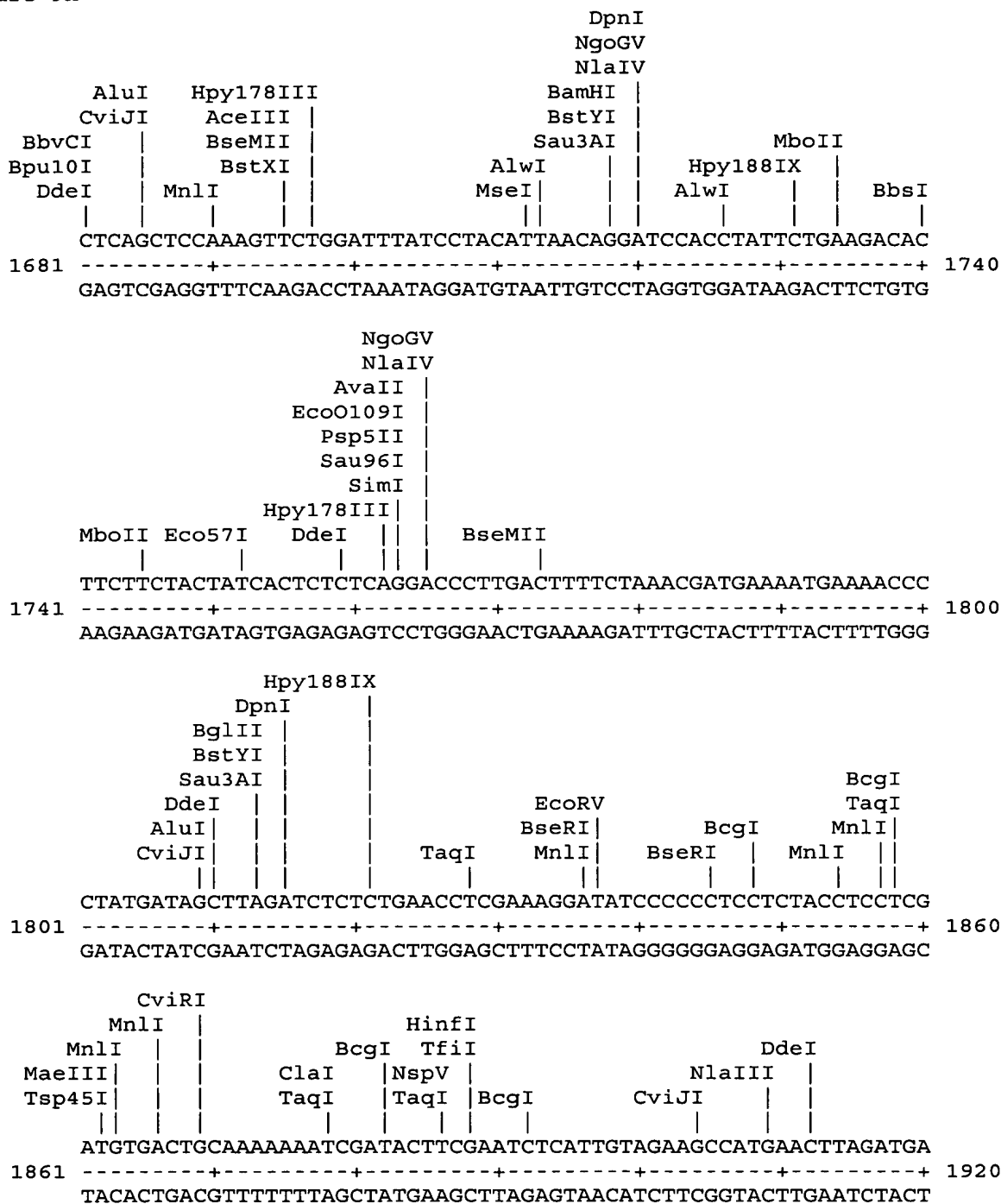
Figure 9G





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Corresponding DNA Fragments and Uses
Thereof
Inventor(s): Andrew D. MURDIN et al.
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Figure 9H





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Corresponding DNA Fragments and Uses
Thereof
Inventor(s): Andrew D. MURDIN et al.
Appl. No.: 09/868,987

Figure 9I

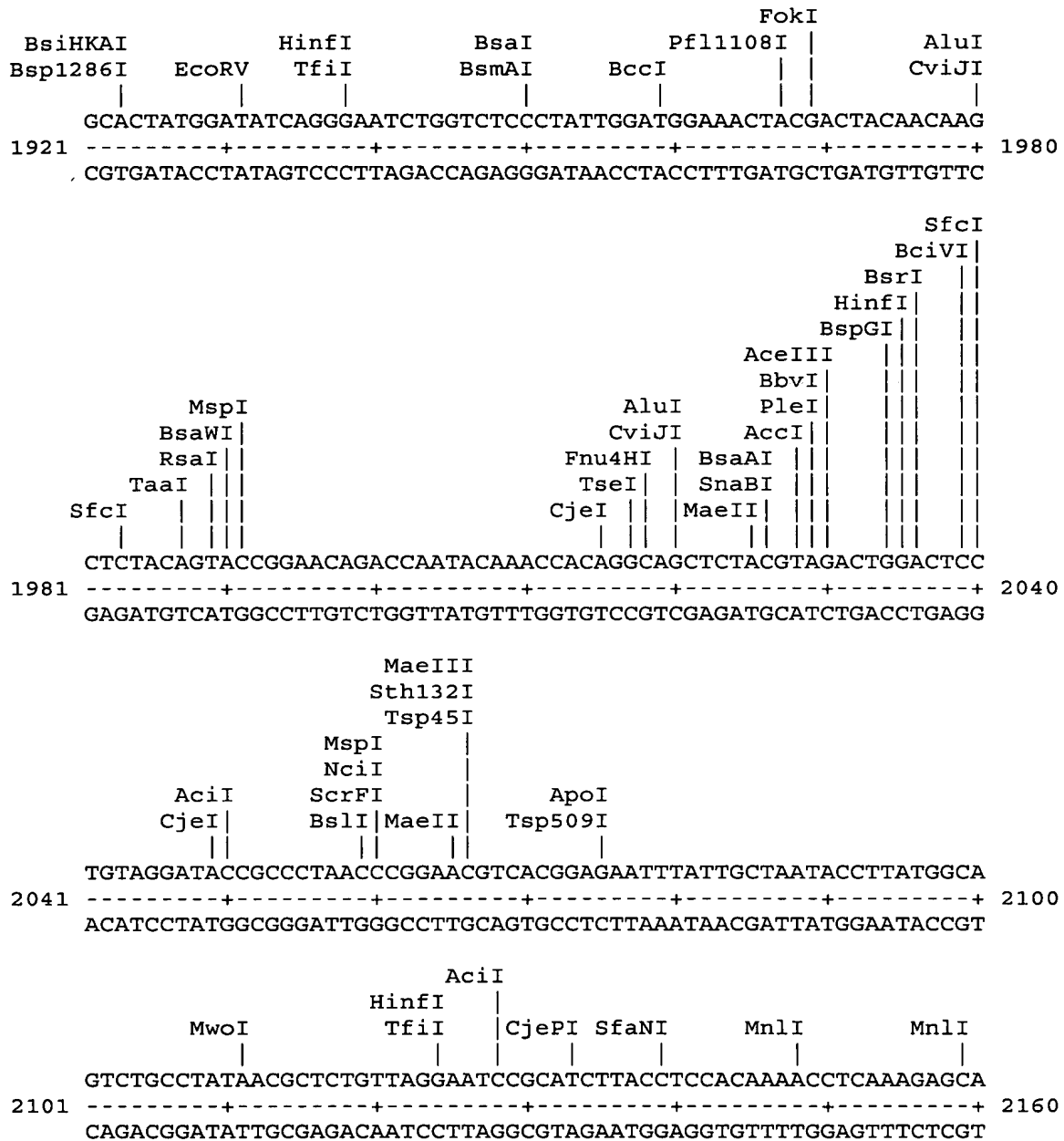
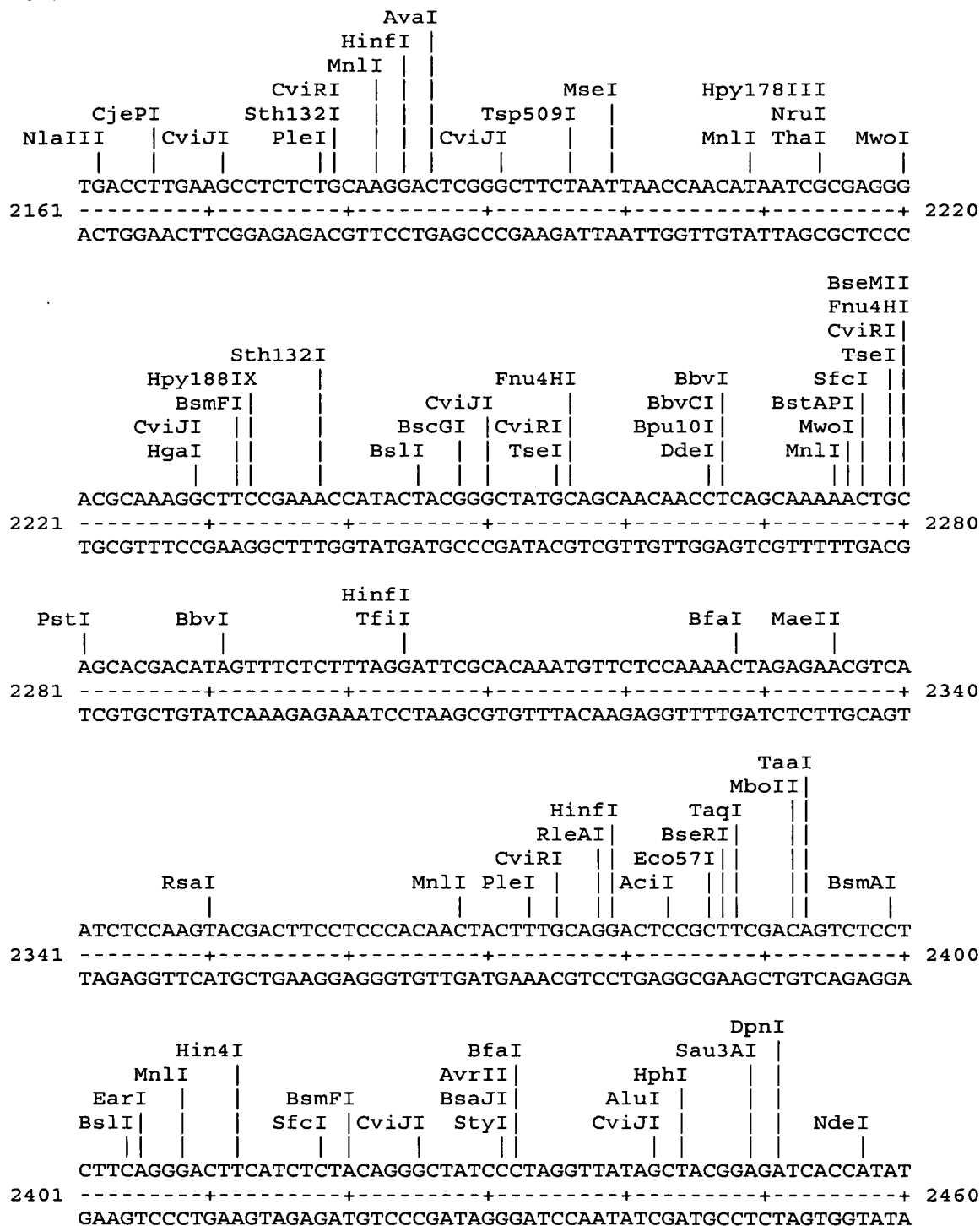
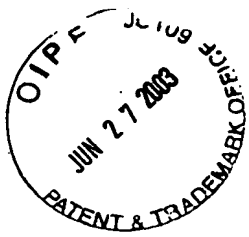


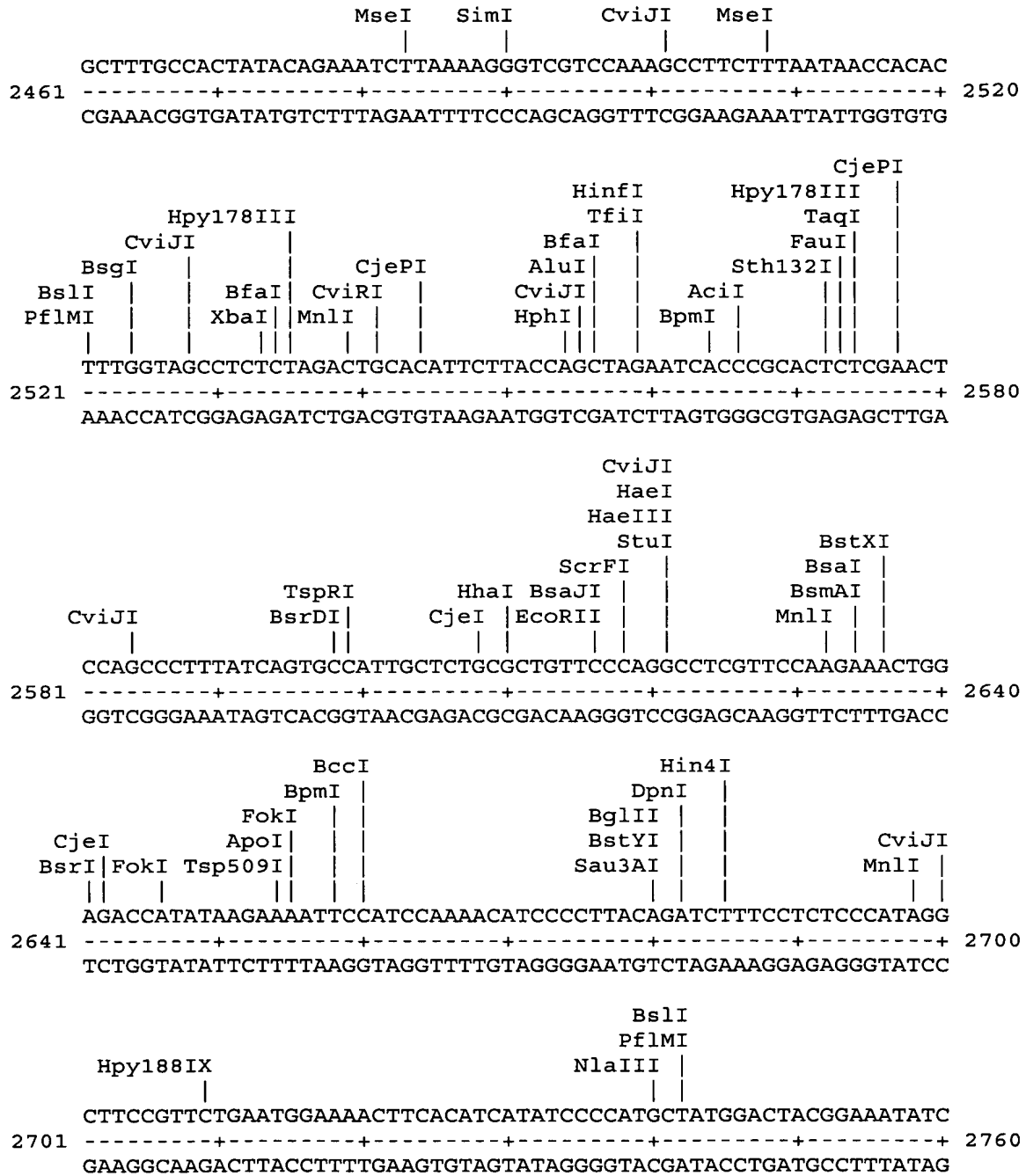
Figure 9J





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Thereof
Inventor(s): Andrew D. MURDIN et al.
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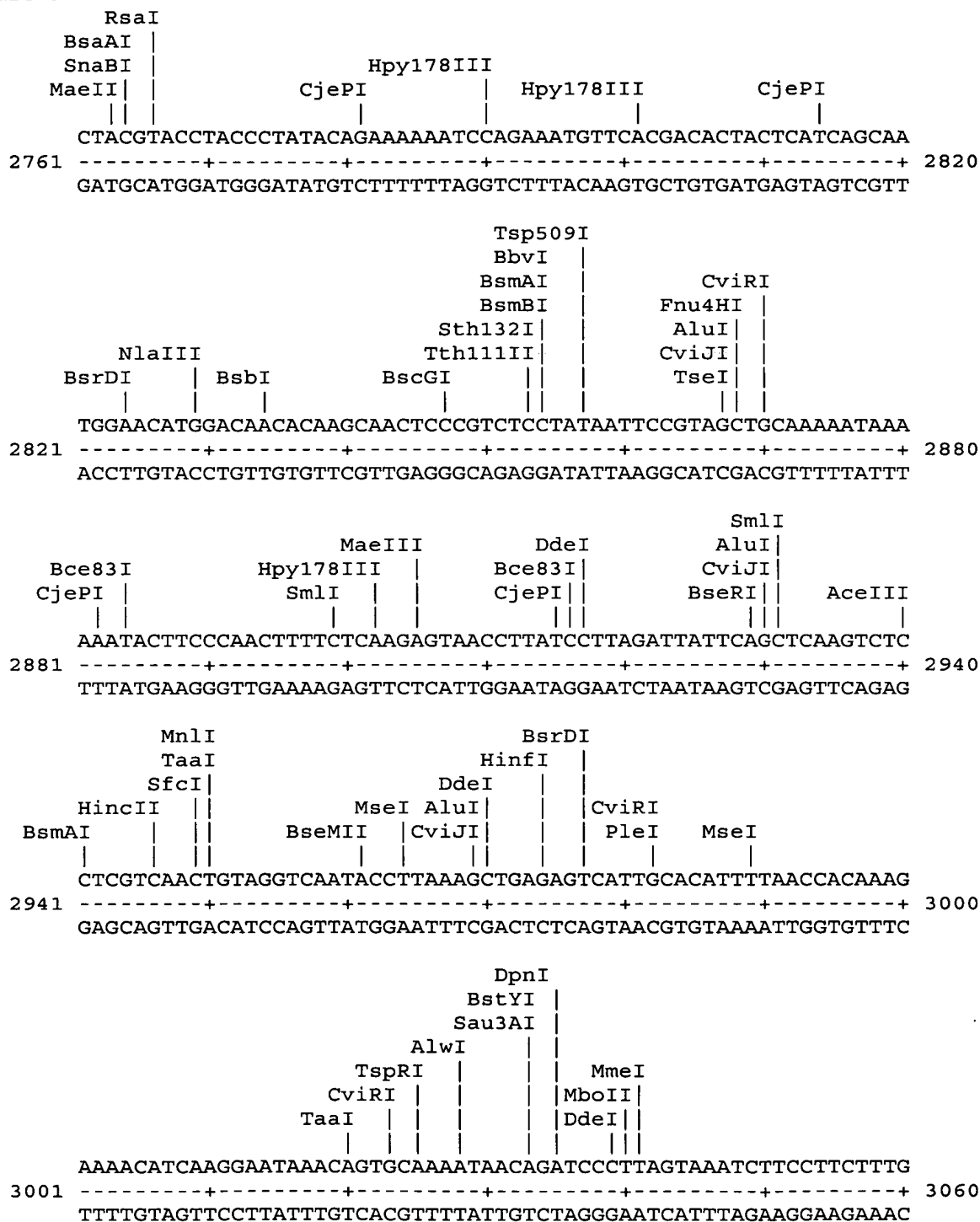
Figure 9K





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Thereof
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Appl. No.: 09/868,987

Figure 9L





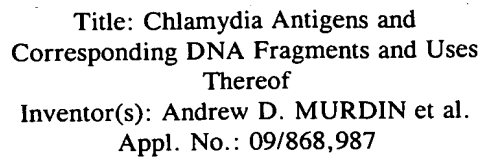
Title: Chlamydia Antigens and
Corresponding DNA Fragments and Uses
Thereof
Inventor(s): Andrew D. MURDIN et al.
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Figure 9M

```

      Tsp509I
      MseI|
      CviJI|
      NgoGV|
      NlaIV|
      |||
TTGGAGCCTTAATTTTAGGTAAACTACAATA
3061 -----+-----+-----+--- 3092
AACCTCGGAATTAAAATCCATTTTGATGTTAT

```



Restriction enzyme analysis of CPN100633 (RY 65 - SEQ ID NO. 10)

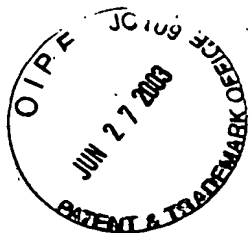
MseI
 VspI
 Tsp509I
 MseI
 TaaI
 1
 AAACAGTTAAATAATTAATAGACAATAATCTATTCTTATTGACTTCTTTTTTCTTGTTT
 -----+-----+-----+-----+-----+-----+ 60
 TTTGTCAATTTATTAATTATCTGTTATTAGATAAGAATAACTGAAGAAAAAAGAACAAA

 ApoI
 Tsp509I
 NspV
 TaqI
 MseI
 MnlI
 NlaIII
 61
 ATTAAAGTTGCTTCAACCTTATTGATTTAACGAGGAAACCATGACCATACTTCGAAATTT
 -----+-----+-----+-----+-----+-----+ 120
 TAATTTCAACGAAGTTGGAATAACTAAATTGCTCCTTTGGTACTGGTATGAAGCTTTAAA

 Fnu4HI
 TseI
 PstI
 Fnu4HI
 CviRI
 TseI
 SfcI
 MnlI
 MwoI
 BspMI
 CviJI
 BbvI
 BbvI
 MboII
 Hpy178III
 RcaI
 121
 TCTTACCTGCTCGGCTTTATTCCTCGCTCTCCCTGCAGCAGCACAAGTTGTATATCTTCA
 -----+-----+-----+-----+-----+-----+ 180
 AGAATGGACGAGCCGAAATAAGGAGCGAGAGGGACGTCGTCGTGTTCAACATATAGAAGT

 DdeI
 AluI
 CviJI
 MslI
 NlaIII
 BccI
 PsiI
 TaaI
 HindIII
 Tsp509I
 181
 TGAAAGTGATGGTTATAACGGTGCTATCAATAATAAAAGCTTAGAACCTAAAATTACCTG
 -----+-----+-----+-----+-----+-----+ 240
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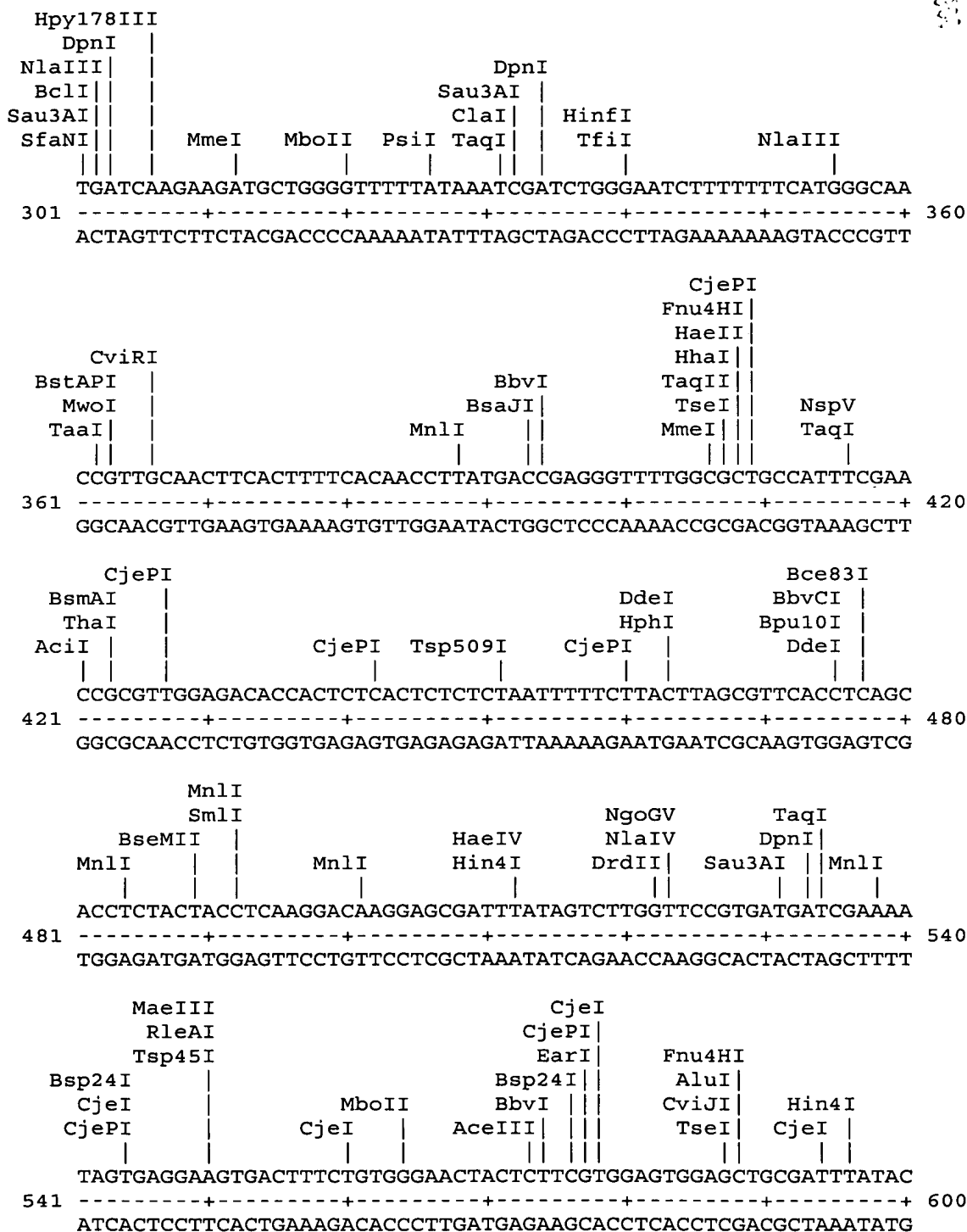
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 Hpy178III
 BfaI
 XbaI
 Hpy178III
 MseI
 AclI
 MaeII
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 -----+-----+-----+-----+-----+-----+ 300
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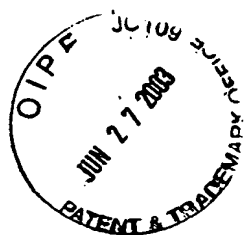


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Corresponding DNA Fragments and Uses
Thereof
Inventor(s): Andrew D. MURDIN et al.
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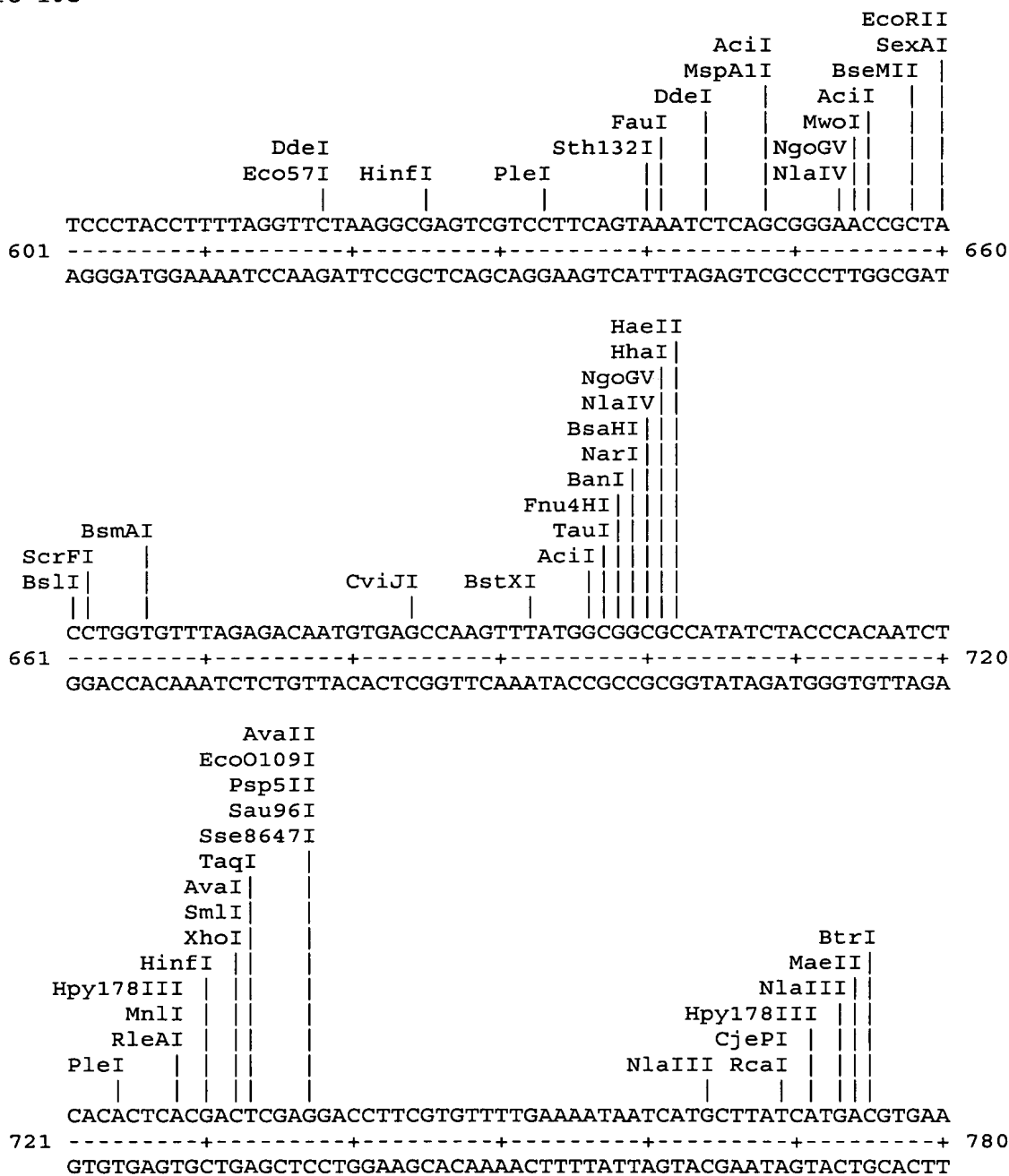
Figure 10B

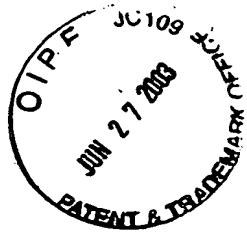




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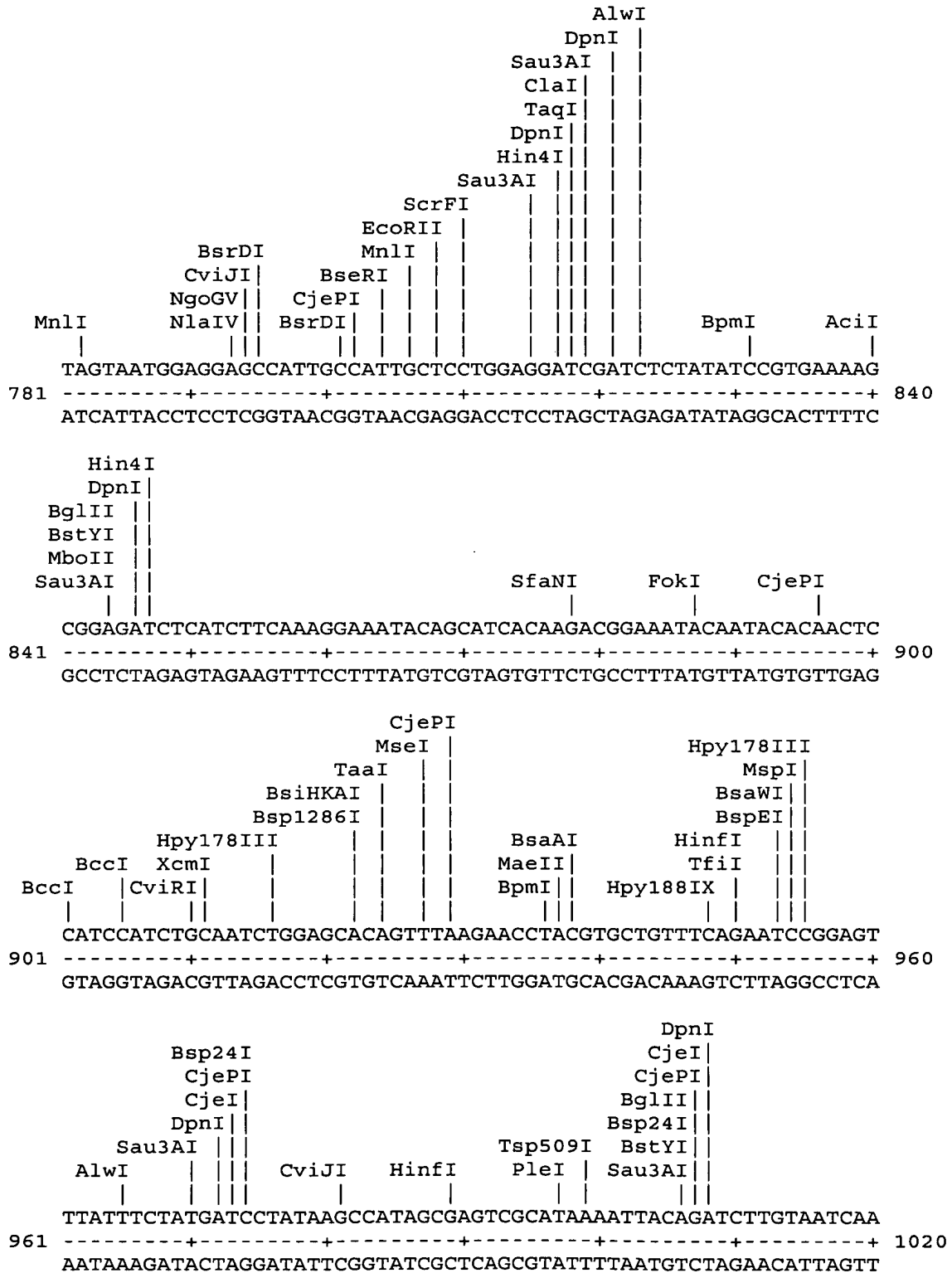
Figure 10C





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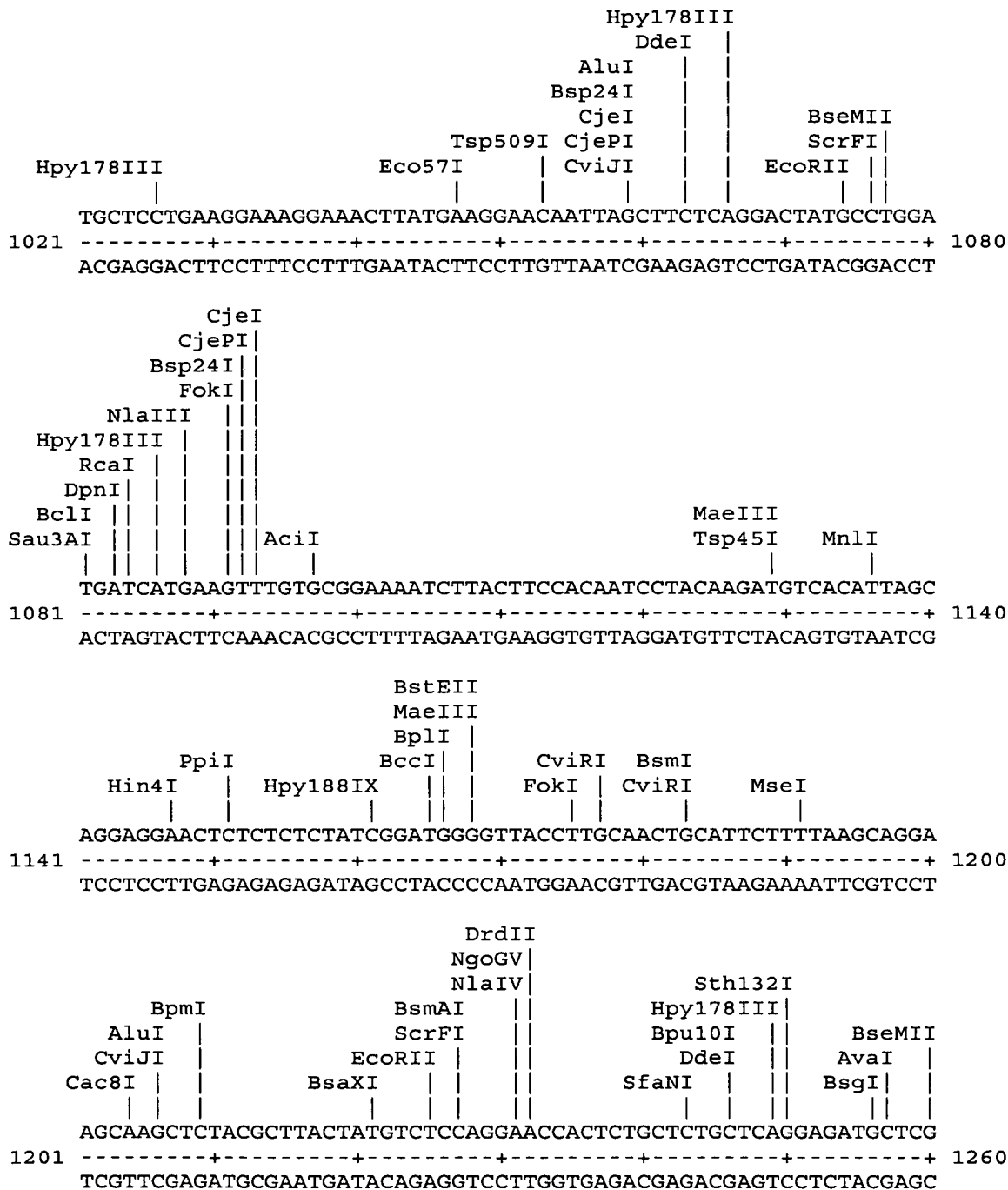
Figure 10D

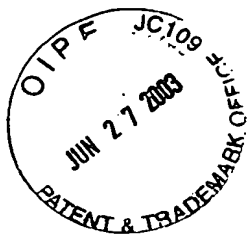




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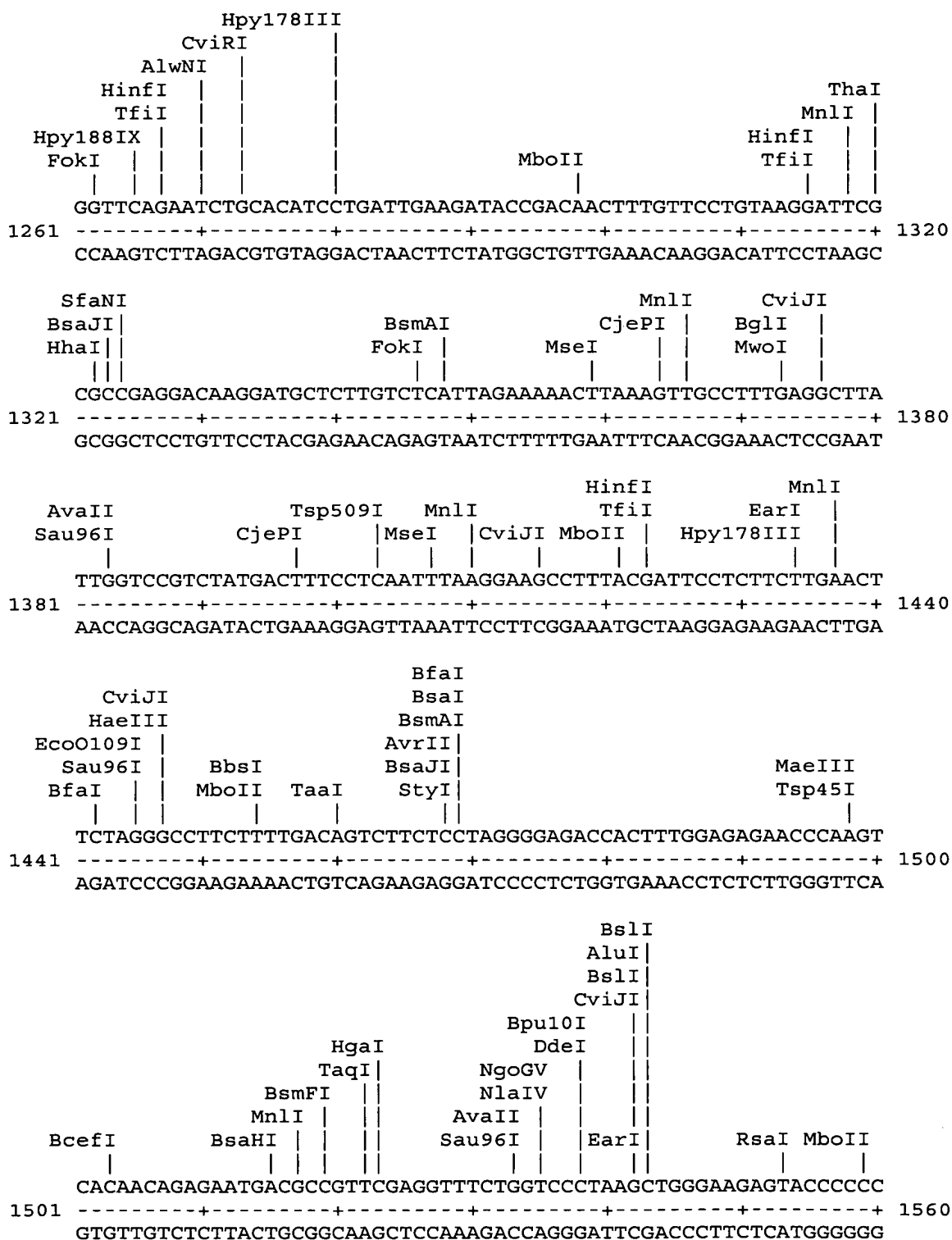
Figure 10E

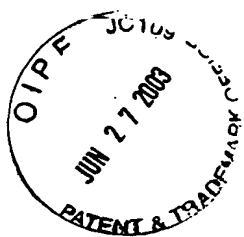




Title: Chlamydia Antigens and
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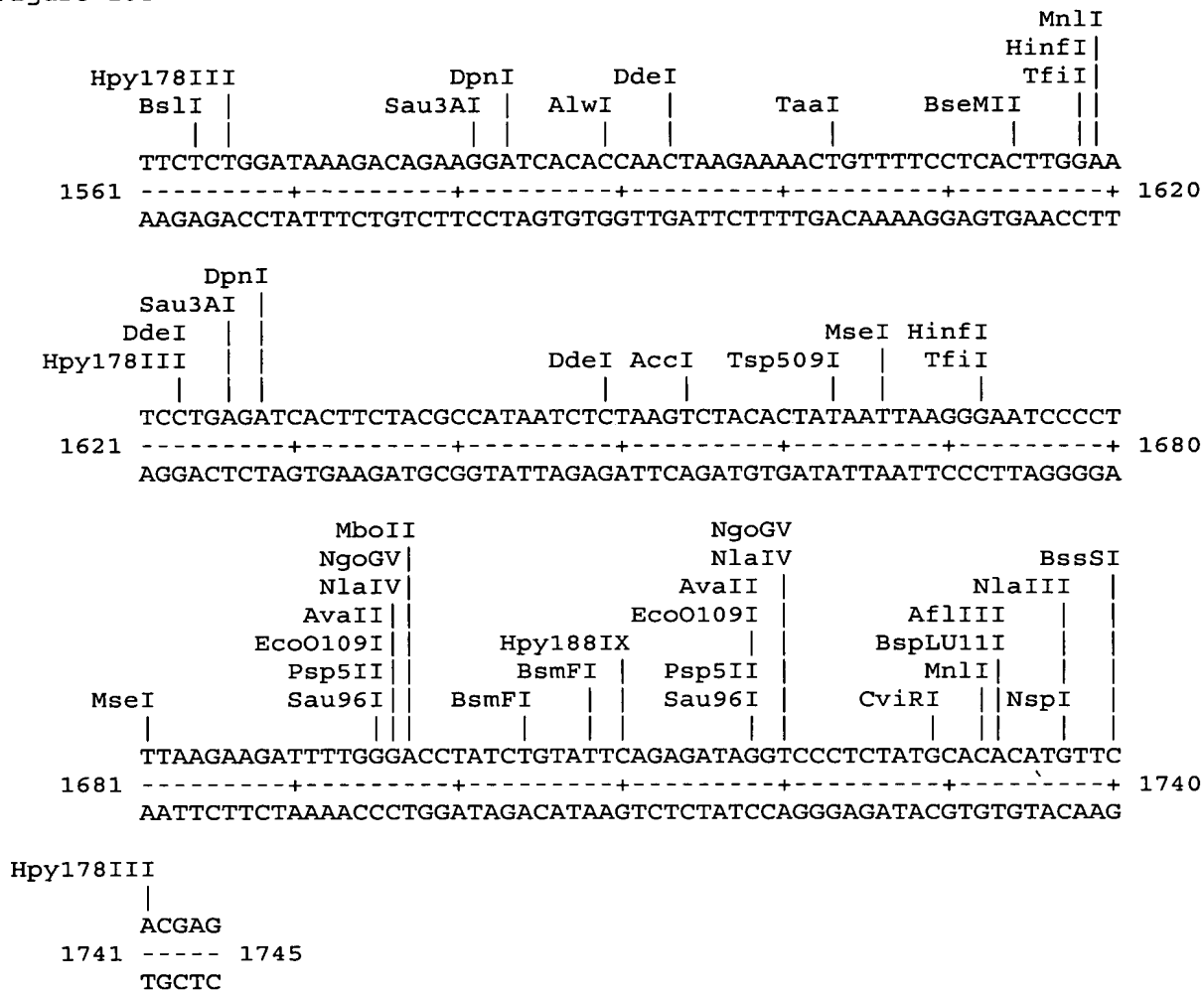
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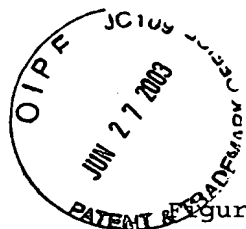




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Corresponding DNA Fragments and Uses
Thereof
Inventor(s): Andrew D. MURDIN et al.
Appl. No.: 09/868,987

Figure 10G





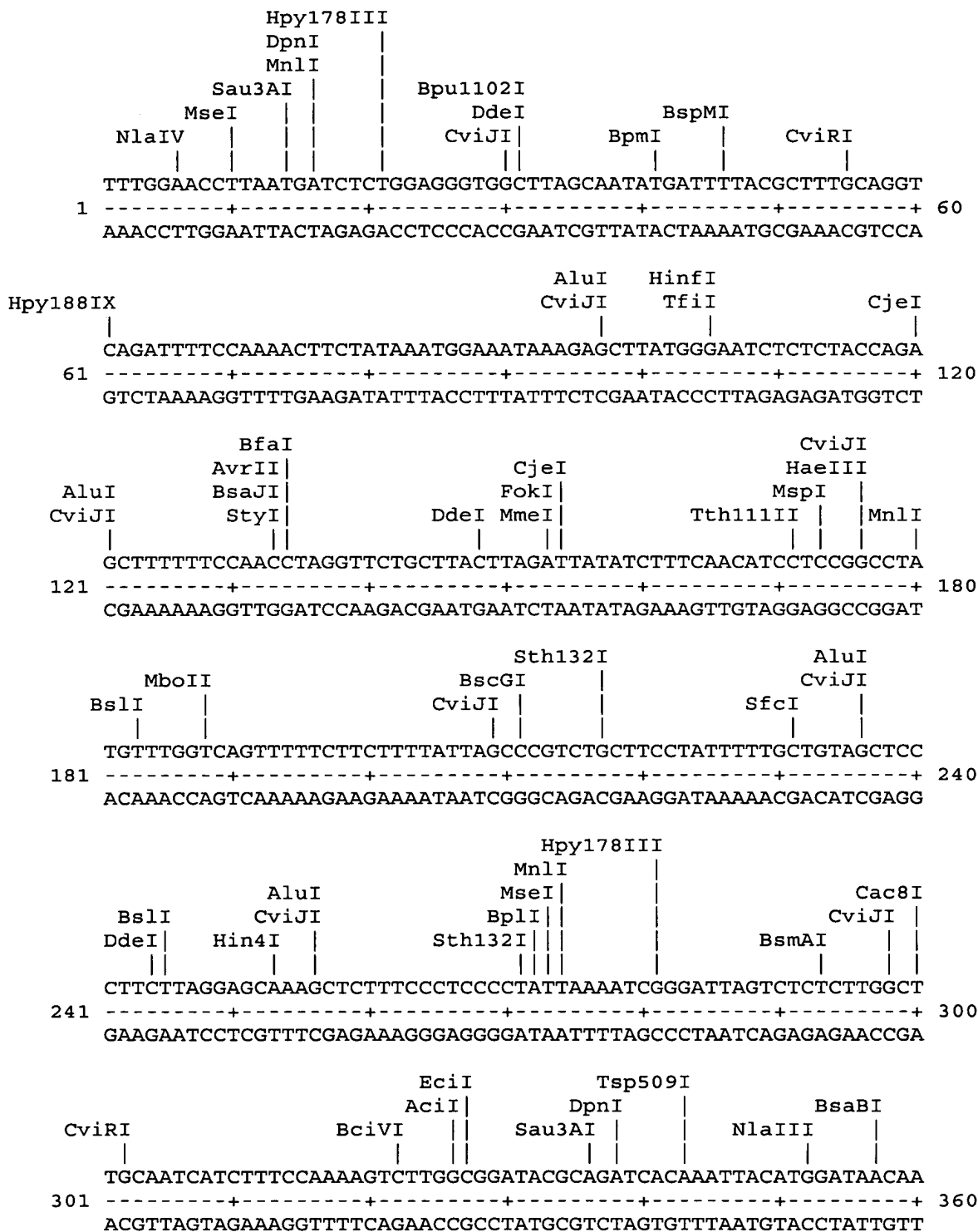
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Corresponding DNA Fragments and Uses
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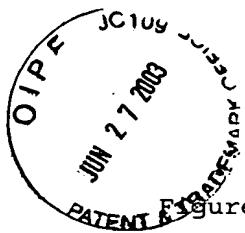
Inventor(s): Andrew D. MURDIN et al.

Appl. No.: 09/868,987

Figure 11A

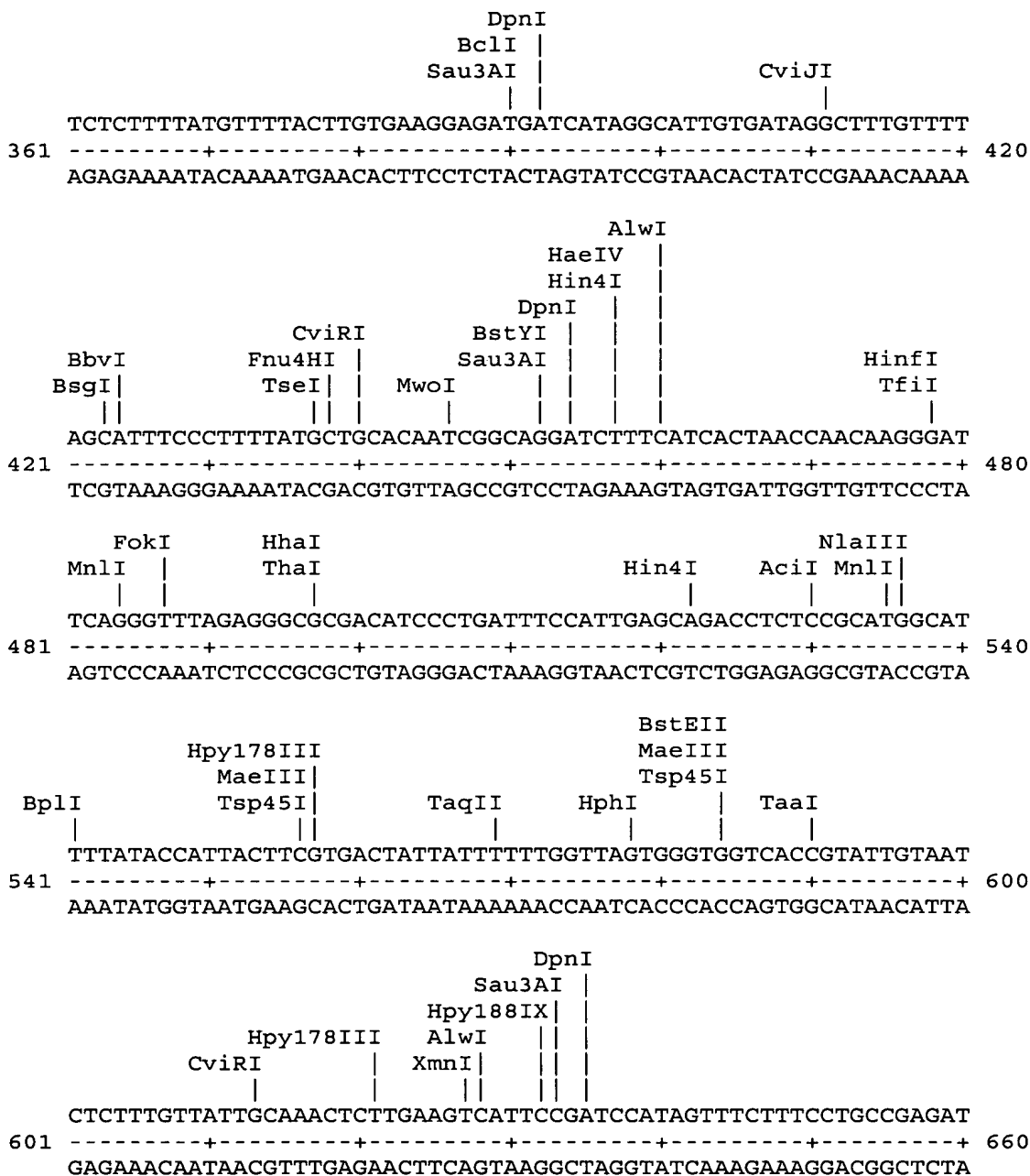
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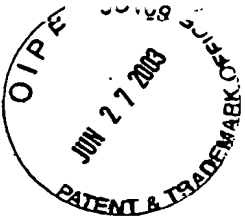




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Thereof
Inventor(s): Andrew D. MURDIN et al.
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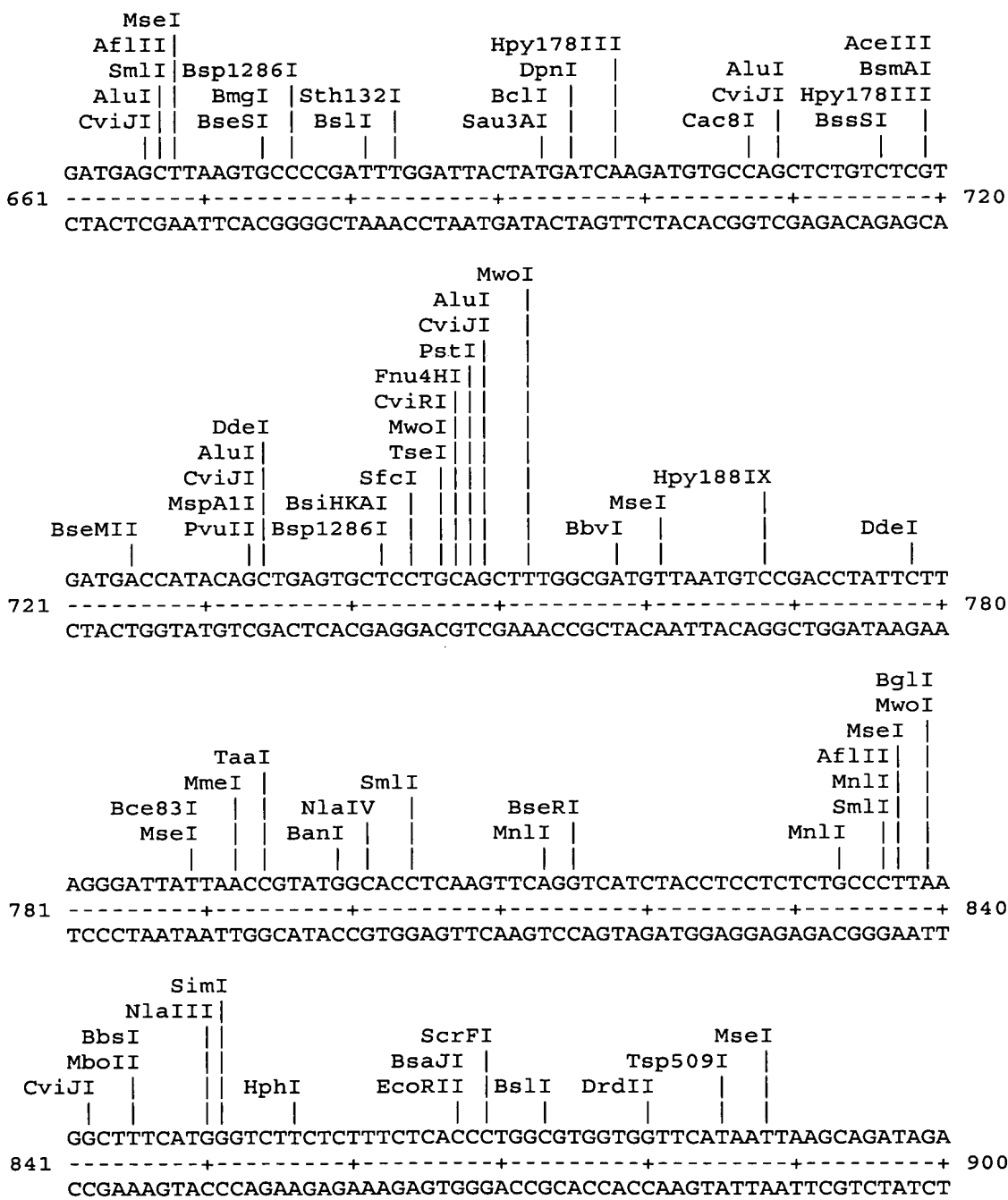
Figure 11B

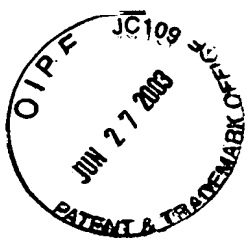




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Appl. No.: 09/868,987

Figure 11C





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Figure 11D

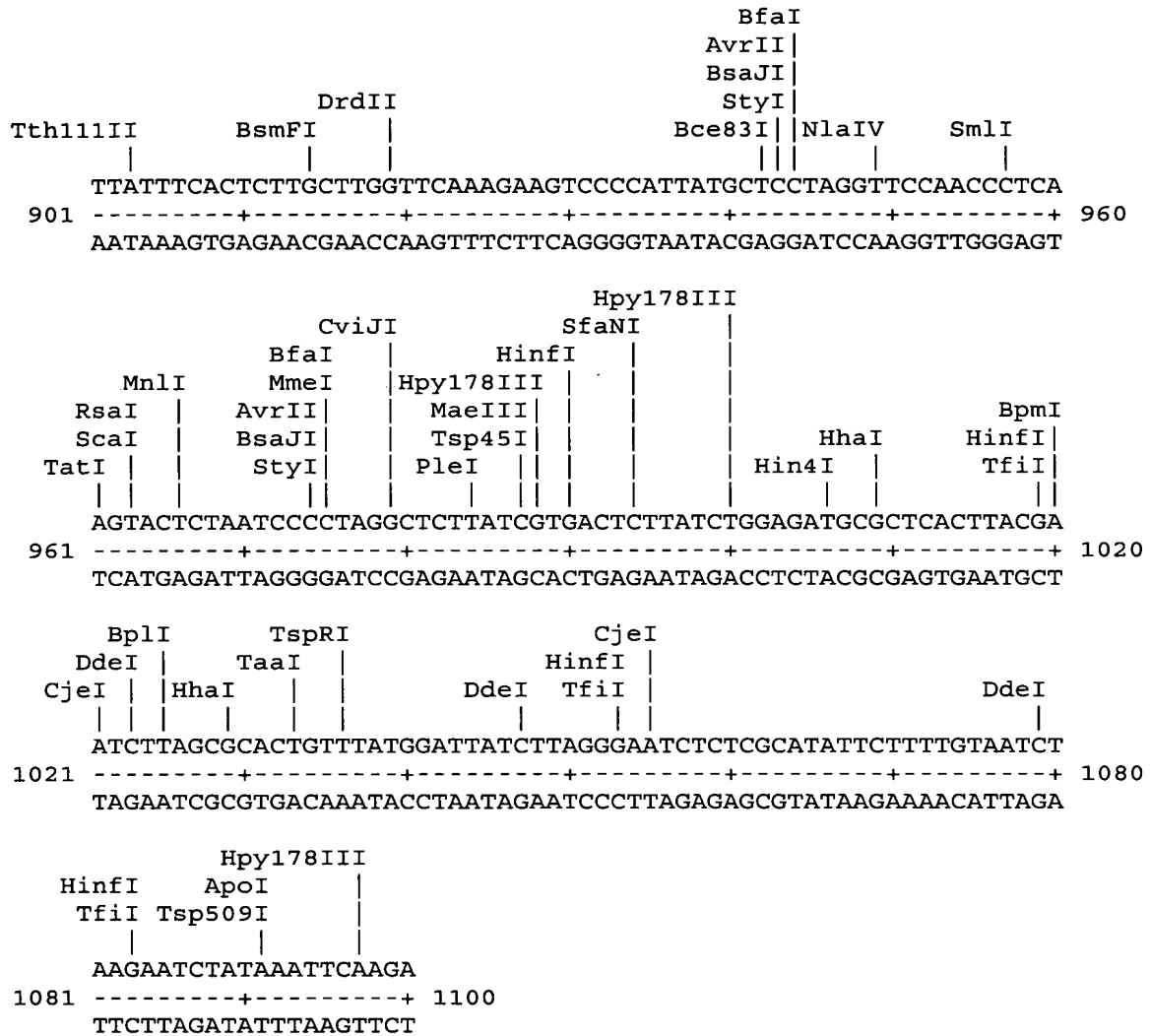


Figure 12A

Restriction enzyme analysis of CPN100987 (RY 67 - SEQ ID NO. 12)

Hin4I | SfaNI
 TspRI | BfaI
 BsrI PleI | BpmI Hpy178III Tsp509I
 MnlI
 CCAAGTGATAAAGACTCTAGTGATAAAGATGCTCCAGAAGGAAGCAATGAAATTGAGGGTG
 1 -----+-----+-----+-----+-----+-----+-----+-----+-----+-----+ 60
 GGTCACATATTTCTGAGATCACTATTTCTACGAGGTCTTCCTTCGTTACTTTAACTCCAC

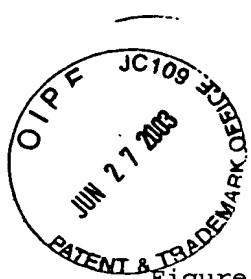
MaeIII Hpy178III BpmI
 Tsp45I BfaI BsaJI
 DdeI BsbI XbaI MslI StyI
 CTTAGTGACTGCCAACACTTTTGGAACTCTAGACATCTTGATGAAGCACTCCAAGGAAGA
 61 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 120
 GAATCACTGACGGTTGTGAAAACCTTGAGATCTGTAGAACTACTTCGTGAGGTTCCCTTCT

ScrFI
 EcoRII HinfI
 HgiEII CjePI BseRI Sth132I
 Hin4I MboII MnlI MboII FokI TfiI Hpy178III MnlI
 CjePI MboII MnlI MboII
 TGACCTCTCCAGGTTTCTTCTCTAAAAATCTTCTTGTTGAATCTCCTCATCCCGAAGAAAT
 121 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 180
 ACTGGAGAGGTCCAAAGAAGGATTTTTAGAAACAACCTTAGAGGAGTAGGGCTTCTTTA

DraI
 MboII CviJI
 MseI FokI Tsp509I NlaIII
 CCCTTTAAAATCTTTATCTTTTACGATGAGTTGGCTACCTACAATTCATCCTTCATGGAT
 181 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 240
 GGGAAATTTTAGAAATAGAAAATGCTACTCAACCGATGGATGTTAAGTAGGAAGTACCTA

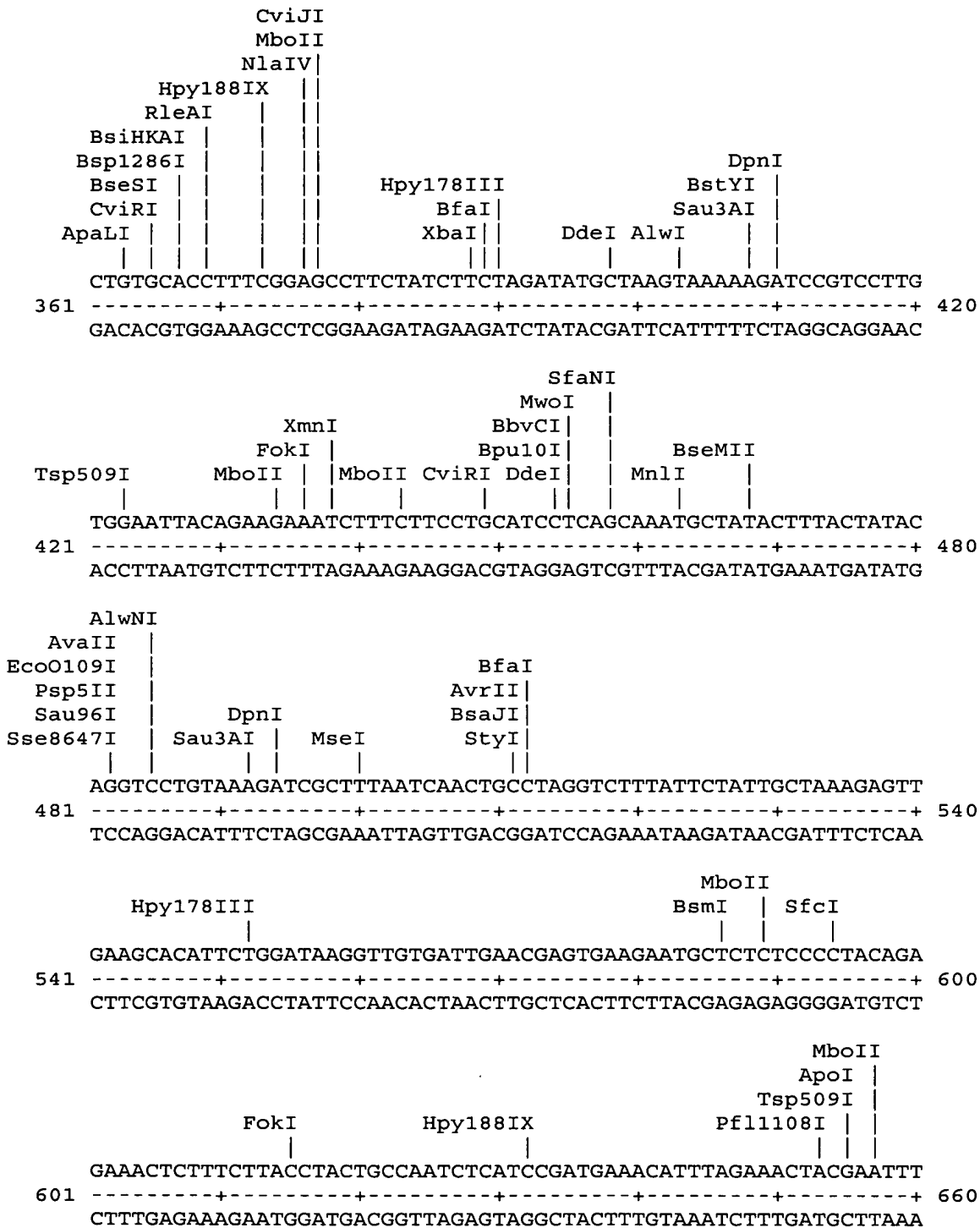
BsaJI
 NlaIII StyI
 BsrDI MslI XmnI Hpy178III MnlI Tsp509I
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 241 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 300
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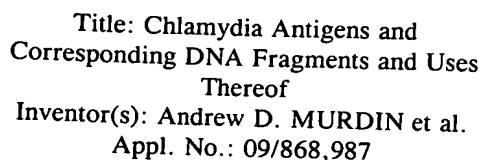
ApoI CviJI
 Tsp509I ScrFI SfaNI
 CviJI Hpy178III EcoRII SfcI MslI
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 301 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 360
 TCTCGGAAATCAAGTTCTTTAAGATGGGAATGACGGACCGTAGAGATATCGGGGTGTAGC

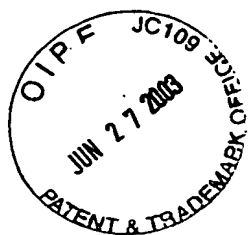


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Figure 12B



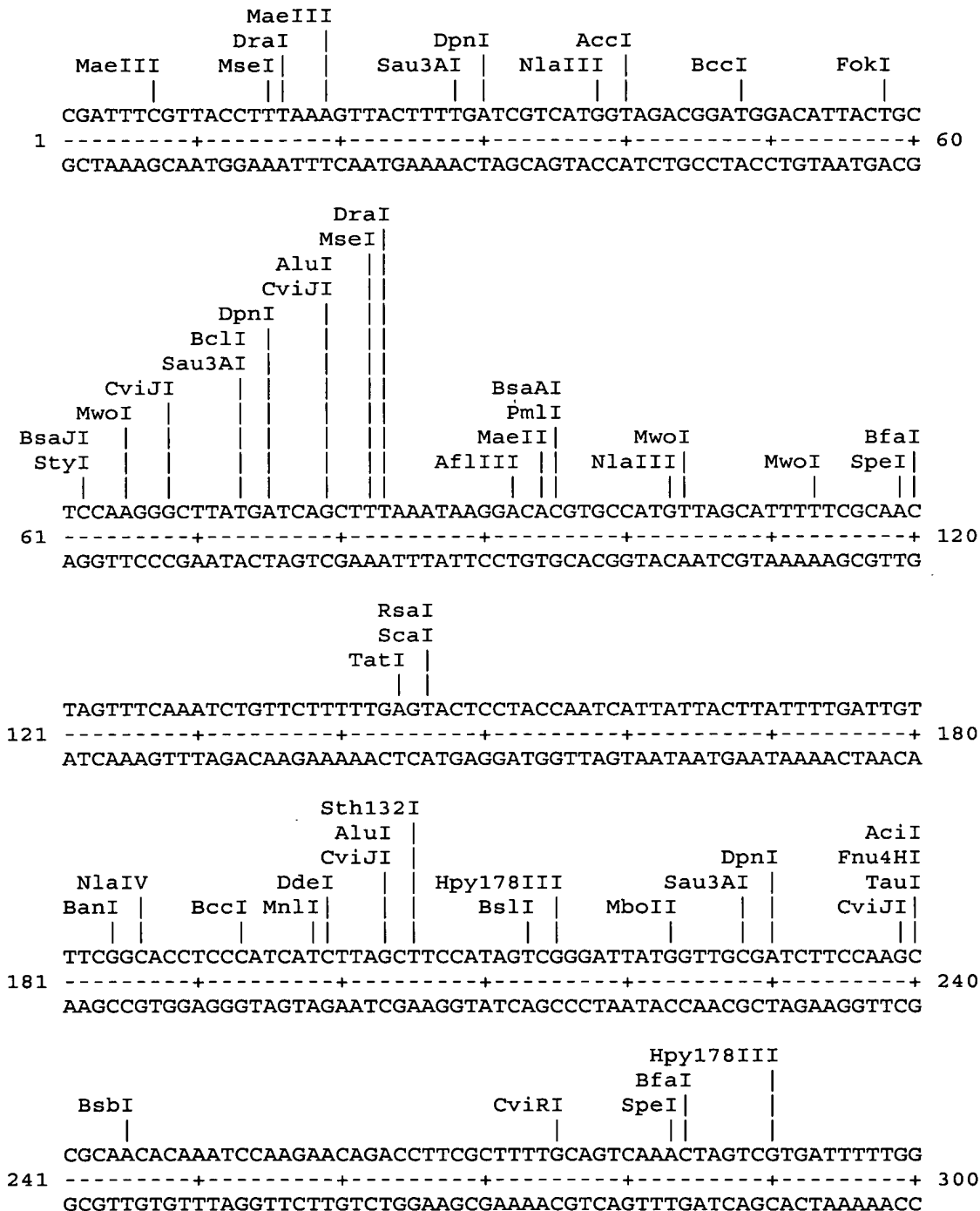
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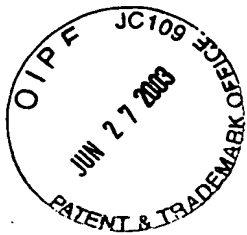


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Figure 13A

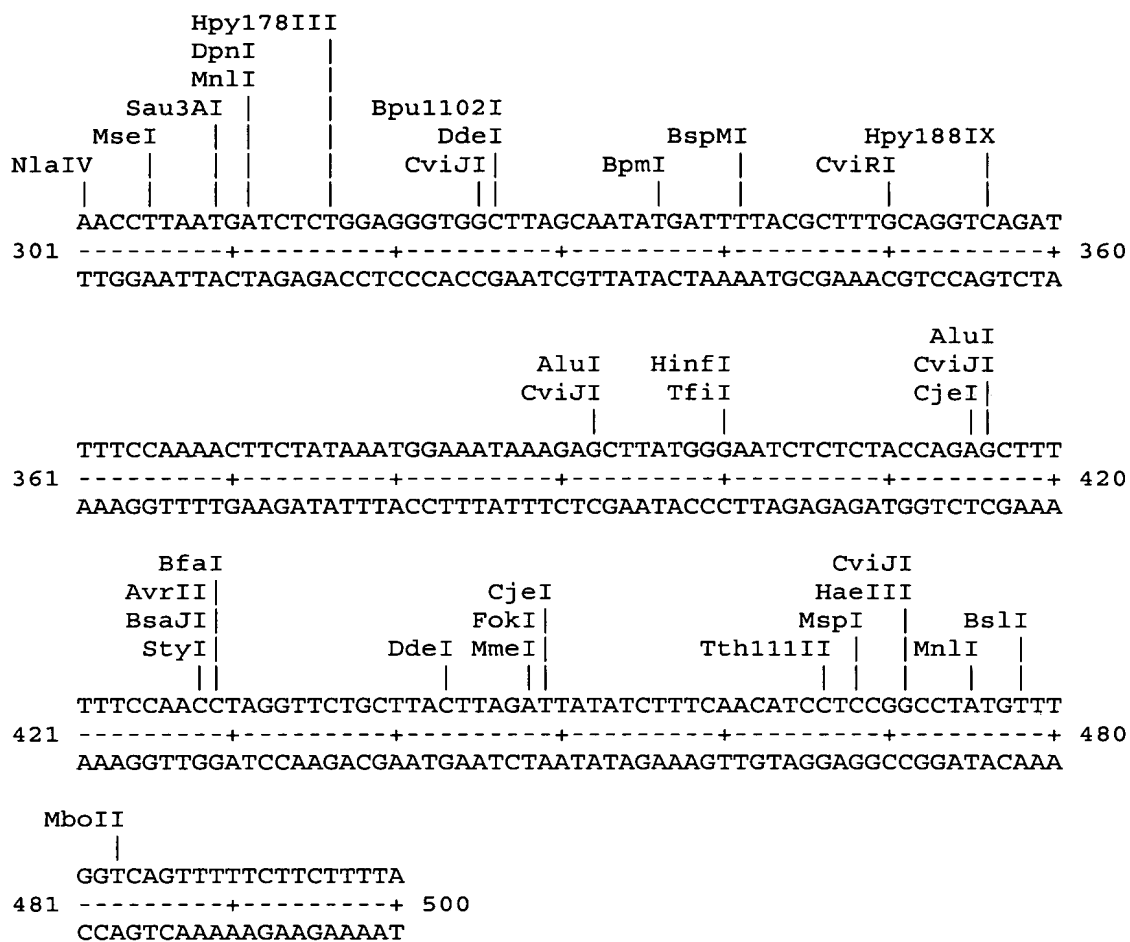
Restriction enzyme analysis of CPN100988 (ry68 - SEQ ID NO. 13)

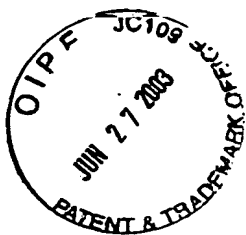




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Figure 13B





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Figure 14: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 14; ORF: cpn100686

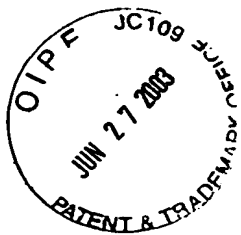
```
1 MVSSPILNVP LKNHASVSGK FTHREVSKLA SDLKSGAMSF VPEVLSEETI
51 SSDLGKKQCT QGIISACCGI AMLIVLMSVY YRFGGVIASG AVLLNLLLIW
101 AALQYLDAPL TLSGLAGIVL AMGMAVDANV LVFERIREEF LLSQSLKKSV
151 EKGYTAKFGA IFDSNLTTVL ASALLFFLDI GPIKGFALTL ILGIFSSMFT
201 ALFMTKFFFM LWMNKTQHTQ LHMMNKFVGI KHDFLRGCKK LWAVSGSVFL
251 LGCVALGFGA WNSVLGMDFK GGYAFTFNPK EHGSDVAQM RGKVVKHLQE
301 AGLSSRDFRI QTFGSSEKIK IYFSDKALSY TKQIRASLLK LTIMSWRYCG
351 IVVRNRPRFL YGNSKRNAKF WSKVSSKLSK KMRYQATIGL LGALAIILLY
401 VSLRFEWQYA FSAVCALIHD LLATCAVLFI AHFFLKIKI DLQAIGALMT
451 VLGYSLNNTL IIFDRIREDR QANLFTPMHV LVNDALQKTF SRTVMTTATT
501 LSVLLMLLFI GGSSVFNFAP IMTIGILLGT LSSLYIAPPL LLFMVRKENR
551 SK
```

Possible T cell epitope:

427 VLFIAHFFL

Possible B cell epitope:

465 RIREDRQAN



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Figure 15: Identification of T- and B-cell epitopes from the amino acid
sequences SEQ ID No. 15; ORF: cpn100696

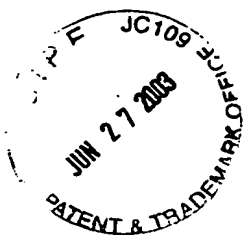
1 MSSNLHPVGG TGTGAAAPES VLNIVEEIAA SGSVTAGLQA ITSSPGMVNL
51 LIGWAKTKFI QPIRESKLFQ SRACQITLLV LGILLVVAGL ACMFIFHSQ
101 GANAFWLIIP AAIGLIKLLV TSLCFDEACT SEKLMVFQKW AGVLEDQLDD
151 GILNNSNKIF GHVKTEGNTS RATTPLVNDG RGTPVLSPLV SKIARV

Possible T cell epitope:

133 KLMVFQKWA

Possible B cell epitope:

163: VKTEGNTSRAT



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Figure 16: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 16; ORF: cpn100709

1 MTIRILAEGL AFRYGSKGPN IIHDVSFSVY DGDFIGIIGP NGGGKSTLTM
51 LILGLLTPTF GSLKTFPSHS AGKQTHSMIG WVPQHFSYDP CFPISVKDVV
101 LSGRLSQLSW HGKYKKKDFE AVDHALLDLVG LSDTTTTAFA HLSSGGQIQRV
151 LLARALASYP EILILDEPTT NIDPDNQORI LSILKKLNRT CTILMVTHDL
201 HHTTNYFNKV FYMNKTLHFI GRHFDLNRPI LLSSYKNQEF SCSPH

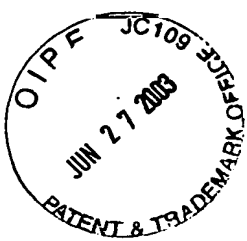
Possible T cell epitope:

212 YMNKTLHFI

Possible B cell epitopes:

109 SWHGKYKKKDFE

166 DEPTTNIDPDNQQR



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Figure 17: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 17; ORF: cpn100710

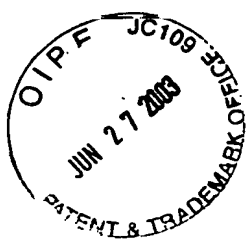
```
1 MHKVIVFIFL TLYSLKSYGN DVIDKPHVLV SIAPYKFLVE QIAEETCFVY
51 AIVTNHYDPH TYELPPQQIK ELRQGDWFR IGEAFGKNLL EKPVMQQVDL
101 SQNVSLIQGK PCCNQHTTNY DTHTWLSPPN LKVQVETIVT TLSKKYPQHA
151 TLYQSNGEKL LLALDQLNEE ILTITSKAKQ RHILVSHGAF GYFCRDYNFS
201 QHTIEKSSHV EPSPKDVARV FRDIEQYKIS SVILLEYSGR RSSAMLADRF
251 HMHTVNLDPY AENVLVNLKT IATTFSSL
```

Possible T cell epitope:

125 WLSPKNLKV

Possible B cell epitope:

55 NHYDPHTYELPPQQIKELRQGD



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Figure 18: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 18; ORF: cpn100711

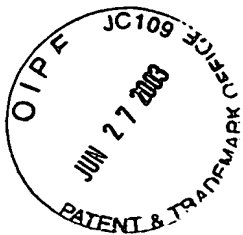
```
1  MGP GSVLSNH SKEAGGIAIN NVIIDFSEIV PTKDNATVAP PTLKLVSRTN
51 ADSKDKIDIT GTVTLLDPNG NLYQNSYLGE DRDITLFDNID NSASGAVTAT
101 NVTLQGNLGA KKG YLGTWNL DPNSSGSKII LKWTFDKYLR WPYIPRDNHF
151 YINSIWGAQN SLVTVNQGIL GNMLNNARFE DPAFNNFWAS AIGSFLRKEV
201 SRNSDSFTYH GRGYTAAVDA KPRQEFILGA AFSQVFGHAE SEYHLDNYKH
251 KSGSGHSTQAS LYAGNIFYFP AIRSRPILFQ GVATYGYMQH DTTYYPSTIE
301 EKNMANWDSI AWLFDLRFSV DLKEPQPHST ARLTFYTEAE YTRIRQEKFT
351 ELDYDPRSFS ACSYGNLAIP TGFSVDGALA WREIILYNKV SAAYLPVILR
401 NNP KATYEV LSTKEKGNVVN VLPTRNAARA EVSSQIYLG S YWTLYGTYTI
451 DAS MNTLVQM ANGGIRFVF
```

Possible T cell epitope:

312 WLFDLRFSV

Possible B cell epitope:

240: ESEYHLDNYKHKSGHST



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Figure 19: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 19; ORF: cpn100877

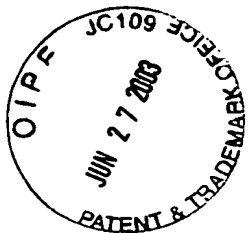
1	MRFSLCGFPL	VFSFTLLSVF	DTSLSATTIS	LTPEDSFHGD	SQNAERSYNV
51	QAGDVYSLTG	DVSI SNVDNS	ALNKACFNVT	SGSVTFAGNH	HGLYFNNISS
101	GTTKEGAVLC	CQDPQATARF	SGFSTLSFIQ	SPGDIKEQGC	LYSKNALMLL
151	NNYVVRFEQN	QSKTKGGAIS	GANVTIVGNY	DSVSFYQNAA	TFGGAIHSSG
201	PLQIAVNQAE	IRFAQNTAKN	GSGGALYSDG	DIDIDQNAYV	LFRENEALTT
251	AIGKGGAVCC	LPTSGSSTPV	PIVTFSDNKQ	LVFERNHSIM	GGGAIYARKL
301	SISSGGPTLF	INNISYANSQ	NLGGAI AIDT	GGEISLSAEK	GTITFQGNRT
351	SLPFLNGIHL	LQNAKFLKLQ	ARNGYSIEFY	DPITSEADGS	TQLNINGDPK
401	NKEYTG TILF	SGEKSLANDP	RDFKSTIPQN	VNLSAGYLVI	KEGAEVTVSK
451	FTQSPGSHLV	LDLGTKLIAS	KEDIAITGLA	IDIDSLSSSS	TAAVIKANTA
501	NKQISVTDSI	ELISPTGNAY	EDLRMRNSQT	FPLLSLEPGA	GGSVTVTAGD
551	FLPVSPHYGF	QGNWKLAWTG	TGNKVGEFFW	DKINYKPRPE	KEGNLVPNIL
601	WNAVDVRSLS	MQVQETHASS	LQTDRLWID	GIGNFFHVSA	SEDNIRYRHN
651	SGGYVLSVNN	EITPKHYTSM	AFSQLFSRDK	DYAVSNNEYR	MYLGSYLYQY
701	TTSLGNIFRY	ASRNPNVNVG	ILSRRFLQNP	LMIFHFLCAY	GHATNDMKTD
751	YANFPMVKNS	WRNNCWAIEC	GGSMPLLVFE	NGRLFQGAIP	FMKLQLVYAY
801	HGDFKETTAD	GRRFSNGSLT	SISVPLGIRF	EKLALSQDVL	YDFSFSYIPD
851	IFRKDPSCEA	ALVISGDSWL	VPAAHVSRHA	FVGSGTG RYH	FNDYTELLCR
901	GSIECRPHAR	NYNINCGSKF	RF		

Possible T cell epitope:

146 ALMLLNYYV

Possible B cell epitope:

581 DKINYKPRPEKEG



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Figure 20: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 20; ORF: CPN100325

```
1 MPSSWKRLQ VLSHKIAATE SGGGIYAKDI QLQALPGSFT ITDNKVETSL
51 TTSTNLYGGG IYSSGAVTLT NISGTFGITG NSVINTATSQ DADIQGGGIY
101 ATTSLSINQC NTPILFSNNS AATKKTSTTK QIAGGAIFSA AVTIENNSQP
151 IIFLNNSAKS EATTAATAGN KDSCGGAIAA NSVTLTNPE ITFKGNYAET
201 GGAIGCIDLT NGSPPRKVS IADNGSVLFQD NSALNRGGAI YGETIDISRT
251 GATFIGNSSK HDGSAICCST ALTLAPNSQL IFENNKVTET TATTKASINN
301 LGAAIYGNNE TSDVTISLSA ENGSIFFKNN LCTATNKYCS IAGNVKFTAI
351 EASAGKAISF YDAVNVPPKK QLLKS
```

Possible T cell epitope:

226 VLFQDNSAL

Possible B cell epitope:

257 NSSKHDG



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Figure 21: Identification of T- and B-cell epitopes from the amino acid
sequences SEQ ID No. 21; ORF: CPN100368

1	MKYSLPWLLT	SSALVFSLHP	LMAANTDLSS	SDNYENGSSG	SAAFTAKETS
51	DASGTTYTLT	SDVSITNVSA	ITPADKSCFT	NTGGALSFVG	ADHSLVLQTI
101	ALTHDGAAIN	NTNTALSFSG	FSSLLIDSAP	ATGTSGGKGA	ICVTNTEGGT
151	ATFTDNASVT	LQKNTSEKDG	AAVSAYSIDL	AKTTTAALLD	QNTSTKNGGA
201	LCSTANTTVQ	GNSGTVTFSS	NTATDKGGGI	YSKEKDSTLD	ANTGVVTFKS
251	NTAKTGGAWS	SDDNLALTGN	TQVLFQENKT	TGSAAQANNP	EGCGGAICCY
301	LATATDKTGL	AISQNQEMSF	TSNTTTANGG	AIYATKCTLD	GNTTLTFDQN
351	TATAGCGGAI	YTETEDFSLK	GSTGTVTFST	NTAKTGGALY	SKGNSSLTGN
401	TNLLFSGNKA	TGPSNSSANQ	EGCGGAILAF	IDSGSVSDKT	GLSIANNQEV
451	SLTSNAATVS	GGAIYATKCT	LTGNGSLTFD	GNTAGTSGGA	IYTETEDFTL
501	TGSTGTVTFS	TNTAKTGGAL	YSKGNNLSLG	NTNLLFSGNK	ATGPSNSSAN
551	QEGCGGAILS	FLESASVSTK	KGLWIEDNEN	VSLSGNTATV	SGGAIYATKC
601	ALHGNTTLTF	DGNTAETAGG	AIYTETEDFT	LTGSTGTVTF	STNTAKTAGA
651	LHTKGNTSFT	KNKALVFSGN	SATATATTTT	DQEGCGGAIL	CNISESDIAT
701	KSLTLTENES	LSFINNTAKR	SGGGIYAPKC	VISGSESINF	DGNTAETSGG
751	AIYSKNLSIT	ANGPVSTNN	SGGKGGAII	ADSGELSLEA	IDGDITFSGN
801	RATEGTSTPN	SIHLGARGKI	TKLAAAPGHT	IYFYDPITME	APASGGTIEE
851	LVINPVVKAI	VPPPQPKNGP	I		

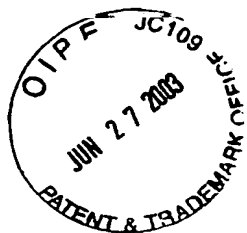
Possible T cell epitope:

7 WLLTSSALV

Possible B cell epitopes:

162 QKNTSEKDG

538 GNKATGPSNSSANQEG



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Thereof

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Figure 22: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 22; ORF: CPN100624

```
1 MTNSIFISKF GCLCDPFVSA FYPTALCCSL SGNEVPNLAS CQMSRKDISA
51 FHTSPSFRLN VTPEPLVSSF RPSNLLNGFG HDITQDITIT GNSINSVIDY
101 NYHYEDGGIL ACKNLFISEN KGNLSFERNS SHSSGGALYS VRECWISKNQ
151 NYSFISNAAS LATTTTSGFG GAIHALDSYI TNNLGEGQFL DNVSKNRGGA
201 IYVGVLSIT DNLGPIVIK NQTLEDSSF GGIFCRAVNI ERNYQNIQIN
251 DNASQGQVVY FLPLGVIISS NKEIIEISNH SASSINTASG KLYPGGGGIM
301 CTSLSHENNP KGLIFNNKTA ALSGGVYTRD LSSSKITVRT AFINNSATSG
351 GALINLSGIG STPQNFFLSA DYGDILFNNN TITSSSPQPG YRNALYAAPG
401 INLKLGARQG YKILFYDPID HDQTTTDPID FNYEPHHLGT VLFSGINVDS
451 NATNPLNFLS KFSNSSRLER GVLAIEDRAA ISCKTLSQTG GILRLGNAAL
501 IRTKGPSSSI NFNAIAINLP SILQSEASAP KFWIYPTLTG STYSEDTSST
551 ITLSGPLTFL NDENENPYDS LDLSEPRKDI PPPLPPRCDC KKIDTSNLIV
601 EAMNLDEHYG YQGIWSPYWM ETTTTTSSTV PEQTNTNHRQ LYVDWTPVGY
651 RPNPERHGEF IANTLWQSAY NALLGIRILP PQNLKEHDLE ASLQGLGLLI
701 NQHNREGRKG FRNHTTGAA TTSAKTAARH SFSLGFAQMF SKTRERQSPS
751 TTSSHNYFAG LRFDSLFRD FISTGLSLGY SYGDHMLCH YTEILKGSSK
801 AFFNNHTLVA SLDCTFLPAR ITRTLELQPF ISAIALRCSQ ASFQETGDHI
851 RKFHPKHPLT DLSSPIGFRS EWKTSHHIPM LWTTEISYVP TLYRKNPEMF
901 TTLLISNGTW TTQATPVSYN SVAARIKNTS QLFSRVTLSL DYSAQVSSST
951 VGQYLKAESH CTF
```

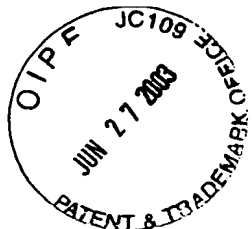
Possible T cell epitope:

640 QLYVDWTPV

Possible B cell epitopes:

701 NQHNREGRKGFRNHTTG

741 SKTRERQSPSTTSSHNY



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Figure 23: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 23; ORF: CPN100633

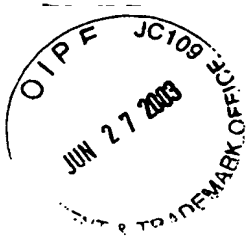
1	MTILRNFLTC	SALFLALPAA	AQVVYLHESD	GYNGAINNKS	LEPKITCYPE
51	GTSYIFLDDV	RISNVKHDQE	DAGVFINRSG	NLFFMGNRCN	FTFHNLMTEG
101	FGAAISNRVG	DTTLTSLNFS	YLAFTSAPLL	PQGQGAIYSL	GSVMIENSEE
151	VTFCGNYSSW	SGAAIYTPYL	LGSKASRPSV	NLSGNRYLVF	RDNVSQVYGG
201	AISTHNLTLT	TRGPSCFENN	HAYHDVNSNG	GAIAIAPGGS	ISISVKSGDL
251	IFKGNTASQD	GNTIHNSIHL	QSGAQFKNLR	AVSESGVYFY	DPISHSESHK
301	ITDLVINAPE	GKETYEGETIS	FSGLCCLDDHE	VCAENLTSTI	LQDVTLAGGT
351	LSLSDGVTLQ	LHSFKQEASS	TLTMSPGTTL	LCSGDARVQN	LHILIEDTDN
401	FVPVRIRAED	KDALVSLEKL	KVAFEAYWSV	YDFPQFKEAF	TIPLLELLGP
451	SFDSLILLGET	TLERTQVTTE	NDAVRGFWSL	SWEEYPPSLD	KDRRITPTKK
501	TVFLTWNPEI	TSTP			

Possible T cell epitope:

640 QLYVDWTPV

Possible B cell epitope:

482 WEEYPPSLDKDRRITPTKK



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Thereof

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Figure 24: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 24; ORF: cpn100985

```
1  MGISLPELFS  NLGSAYLDYI  FQHPPAYVWS  VFLLLLLARLL  PIFAVAPFLG
51 AKLFPSPIKI  GISLSWLAI  FPKVLADTQI  TNYMDNNLFY  VLLVKEMIIG
101 IVIGFVLAFP  FYAAQSAGSF  ITNQGGIQGL  EGATSLISIE  QTSPHGILYH
151 YFVTIIFWL  V  GGHRRIVISLL  LQTLEVIPIH  SFFPAEMMSL  SAPIWITMIK
201 MCQLCLVMTI  QLSAPAALAM  LMSDLFLGII  NRMAPQVQVI  YLLSALKAFM
251 GLLFLT LAW  W  FIIKQIDYFT  LAWFKEVPIM  LLGSNPQVL
```

Possible T cell epitope:

83 YMDNNLFYV

Possible B cell epitope:

78 TQITNYMDNN



Title: Chlamydia Antigens and
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Thereof
Inventor(s): Andrew D. MURDIN et al.
Appl. No.: 09/868,987

Figure 25: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 25; ORF: cpn100987

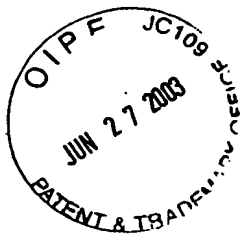
1 MKHSKEDDLS RFLPKNLLVE SPHP EEIPLK SLSFTMSWLP TIHPSWITIA
51 MKEFPPEIQG QLLAWLPEPL VQEILPLLPG ISIAPHRCAP FGAFYLLDML
101 SKKIRPCGIT EEIFLPASSA NAILYTGTPV KIALINCLGL YSIAKELKHI
151 LDKVVI ERVK NALSPTEKLF LTYCQSHPMK HLETTNFLSS WTTDAELRQF
201 VHKQGLEFLG KALTKENASF LWYFLRRLDV GRAYIVEQTL KTWYDHPYVD
251 YFKSRLEQCM KVLVK

Possible T cell epitope:

220 FLWYFLRRL

Possible B cell epitope:

1 MKHSKEDDLSR



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Figure 26: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 26; ORF: cpn100988

1 MLAFFATSFK SVLFEYSYQS LLLILIVSAP PIILASIVGI MVAIFQAATQ
51 IQEQTFFAFV KLVVIFGTLM ISGGWLSNMI LRFAGQIFQN FYKWK

Possible T cell epitope:

21 LLLILIVSA

Possible B cell epitope:

89 QNFYKWK